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## Original Articles

# HE TREATMENT OF AMEBIC DYSENTERY, ESPECIALLY BY APPENDICOSTOMY *

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The subject of the treatment of amebic dysentery, articularly in its bearings on surgical procedures, is ne of lively interest and great practical significance to he medical profession. It assumes importance in view f the utter hopelessness of a certain proportion of cases hich have been allowed to drag on until they no longer ield to medical treatment, and also because accessible tistics indicate clearly the widespread prevalence of disease, principally in tropical, but also to a considerable extent in subtropical and temperate regions.

Passed Assistant Surgeon Heiser is doubtless correct n asserting that "amebic dysentery still easily retains irst place, as that disease is the white man's worst enemy the tropics." In the Philippine Islands, more than -half of all deaths and disabilities among the whites ascribable to this disease, while in Manila its death- has been averaging about 300 per annum.

he disease may also be acquired in the temperate ones. For example, J. P. Tuttle has shown that cases ave occurred among persons who have never been outde of New York, and in 1903 T. B. Futcher[1] reported, n the records of Johns Hopkins Hospital, 95 cases of ebic dystery acquired in Maryland and 17 in eight r states. More recently, Boggs[2] has collected 63 dditional cases from the same records, making a total of 2 cases. It is regrettable that in the large general spitals throughout the southern section of the United tes in which amebic dysentery is more or less prevat, it is not recognized as a distinct disease. The thologic and clinical records of these institutions down a recent date classify amebic infection under the gene term of "chronic dysentery."

he simple truth regarding the geographic distribun in America is that patients in constantly increasing mbers are emigrating from the endemic localities to ore temperate or northerly latitudes. The present discussion will not include a full consideration of prophylaxis, which embraces many points, but the fact that an unsterilized water-supply both directly and indirectly is the principal source of infection deserves especial mention. Musgrave has shown experimentally that sterilization or thorough filtration are essentials wherever the infection is endemic. The danger of eating green vegetables and fruits which have either been fertilized by the oriental method, i. e., with human excrement, or cleansed with unsterilized water, must be recollected.

The actual sources of infection, however, are numerous, so that prophylaxis is a complicated problem, and its scope beyond the prescribed limits of this article. Too much stress cannot be laid on the statement that both constipation and simple diarrhea constitute local predisposing conditions, and they should be, therefore, obviated to the fullest extent in localities in which amebic dysentery is endemic.

### MEDICINAL AND OTHER TREATMENT

One of the most important indications to be fulfilled is rest; this applies with greater force to the acute than to the chronic form of the disease, and, to procure it, an opiate may rarely be required.

We shall describe in the next place the medicinal treatment of the attack. So long as scybalous masses are being passed, we prefer to employ magnesium sulphate in dram doses every third hour. If the general strength be good, a brief course of calomel should precede the use of the saline remedy. The magnesium sulphate lessens the pain and tenesmus by removing the hardened fecal masses and inhibiting rather than exciting undue peristalsis, and it also depletes the portal circulation, thus relieving the hyperemia.

In our view, purgatives, when employed in the advanced stages of amebic dysentery, commonly assume the rôle of aggravating causes. Neither have they a place in the treatment of cases manifesting highly acute invasion symptoms. Saline laxatives may, therefore, be required for longer or shorter periods, according to the character of the intestinal features and progress of the individual case, but should not be long continued after the dysenteric have been converted into diarrheal dejecta.

In the symptomatic treatment, the general condition of the patient brought about by disturbances of the circulatory and excretory organs (cutaneous, renal) must be accorded constant and most careful consideration. Measures intended to support the blood circulation should not be overlooked as occasion demands.

Chronic amebic dysentery is a specific disease in which the causal treatment is the essential and ultimate one on which professional efforts are to be focused. Experience and a critical examination of the expressions of authoritative opinion have shown that, in the majority of cases at least, the vital resistance of the body is incapable the destroying the invading organism after implantation impor-

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* Read before the Section on Hygiene and Tropical Medicine f the Sixteenth International Medical Congress, Budapest, Aug. 9-Sept. 4, 1909.

[1] Futcher, Thomas B.: A Study of the Cases of Amebic Dyntery Occurring at the Johns Hopkins Hospital, THE JOURNAL M. A., Aug. 22, 1903, xli, 480.

[2] Boggs: Amebic Dysentery in the Southern States, Virginia Med. Semi-Monthly, April 10, 1908.

the *amœba coli* has occurred. Granting the correctness of this view, the question pertinently arises: Is there a specific remedy for this disease?

Following its discovery, ipecac at once gained popular favor, only to fall from its enviable position with the passing of time. It was reintroduced by Sir Patrick Manson, who has expressed the belief, founded on long experience, that in ipecacuanha we have a remedy possessing specific powers against the germ cause of at least certain of the more common forms of dysentery.

Says Manson:

> I regard this drug as belonging to the same category of remedies as quinin or mercury or salicylic acid. I know that in America and in many other parts of the world, ipecacuanha has lost its reputation as an antidysenteric. . . . I would urge American physicians to give it one more trial, at all events in such cases of dysentery as have been acquired in the tropics.[3]

Recently certain American clinicians, among them George Dock, E. A. R. Newman and others, have warmly and enthusiastically advocated the use of this drug, claiming for it specific virtues. We have also been profoundly impressed with the therapeutic value of ipecac in the treatment of amebic dysentery during the earlier stages of the disease, but have met with failure in a few much-protracted or chronic relapsing cases. In one instance the drug caused the amebas to disappear from the dejecta, but they subsequently reappeared. In general, then, but not invariably, ipecac exerts a markedly beneficial effect, causing the amebas to disappear rapidly from the dejecta.

The success of the ipecac treatment depends largely on the method of and degree of care exercised in administration. The introduction of capsules of animal membrane, as suggested by Sandwith, and salol-coated pills, which carry the remedy into the intestines before it is absorbed, marked a decided advance in that the liability to nausea and vomiting was thereby minimized. In this manner massive doses which, according to its partisans, are essential to the utmost efficiency of the drug, can be easily administered.

Without stopping to give full details, it may be stated that not less than 30 grains at a single dose (after the method of Sir Patrick Manson in chronic amebic dysentery) are to be given on the first day. Subsequently the amount is to be diminished by five grains *per diem* so that by the sixth day only five grains of the drug are administered. During the next week or ten days a nightly dose of five grains must be allowed. The various precautions against vomiting, which have been properly emphasized by Manson and his adherents, need not be so rigidly enforced when the salol-coated pills of ipecac are employed. These, it will be recollected, are dissolved in and absorbed from the intestinal tract. It is, however, advisable to have the patient fast in all cases for about four hours before administering the remedy, and to enjoin absolute quiet for a similar period after.

This improved mode of administration has also had the effect of overcoming, to an extent at least, the prejudice formerly existing against ipecac as a therapeutic resource in this disease; not, however, before the introduction of colonic irrigation, which was founded on the results of laboratory investigations following the discovery of the specific element of the disease, and believed to offer an opportunity to combat the ameba at its seat of activity in the intestine. It may be questioned whether the irrigation treatment *per se*, i. e., without surgical intervention, has in its last analysis given more encouraging results than the ipecac treatment properly carried out. On the other hand, Boggs[2] and others declare unhesitatingly that the local treatment is the only effective medication in the light of an extensive professional experience. For this purpose, solutions of quinin are most widely approved, commencing at 1:5000 of a blood-warm solution and progressively increasing in strength to 1:1000 in a few days.

Sandwith, in 1898, first suggested that amebic infections might be properly treated with large enemas before they had become chronic, and in this position he was ably supported by William Osler. More recently this treatment has been widely adopted in countries in which amebic infection is endemic. Most authorities believe it to be the part of wisdom to begin these irrigations after the early acute symptoms have, in a measure at least, subsided. Again, there are cases that have reached the stage of chronicity in which the local irritability is too great to permit of thorough lavage. The irrigation solutions which have found widest favor in intestinal amebiasis are those of quinin and silver nitrate, particularly the former. Among numerous other enemas may be mentioned those containing mercuric chlorid, argyrol, creosote and copper sulphate, but they are manifestly less efficacious than the two given above.

As with the ipecac treatment, so with irrigations, certain details in carrying out the method, not all of which can be described here, are necessary to insure the success of the treatment. Especial mention should be, however, made of the following points: marked elevation of the hips, the insertion of a soft rectal tube three to four feet into the colon and the retention of the irrigation fluid for fifteen to twenty minutes.

The object of this method is to wash thoroughly every portion of the colon; and the irrigations should be kept up until repeated examinations have failed to reveal amebas in the stools.

In protracted cases in which the ulcers first appear in the rectum and travel upward, colonic irrigation by the rectal route sometimes fails. The same is probably true of those cases in which the lesions begin in the caput coli and descend, not to speak of the cases in which the small intestine has been invaded for a short distance above the ileocecal valve. While the lesions of amebic dysentery are almost invariably confined to the colon, their distribution is by no means identical in every instance. For example, in 116 cases examined postmortem, Futcher[4] rarely, if ever, found the lesion in the rectum and sigmoid.

On the other hand, Tuttle, in 74 cases of amebic dysentery among living subjects, observed typical ulcers of the rectum and sigmoid in 70 instances. Tuttle described numerous cases in which the ulcers appeared to decrease in size and number from the rectum upward, disappearing entirely in the upper part of the sigmoid flexure. Patients of this class obviously recover under local treatment. Wooley and Musgrave,[5] in 200 cases of amebiasis, found the entire large intestine involved in 159; cecum and ascending colon in 23; transverse colon only in 2; descending colon, sigmoid flexure and rectum in 9 cases. The appendix was implicated in 14 cases, and the ileum in 7.

### APPENDICOSTOMY

Whether it be on account of the peculiar distribution of the lesions or whether in consequence of the advanced character of the local pathologic changes, the simple fact is that not all cases of chronic amebic dysentery yield to rectal lavage, even though carried out with great thoroughness. It is in these instances that appendicostomy offers a real sphere of usefulness by utilizing the caliber of the appendix, thus rendering possible the successful local medication of the large bowel. The following cases in point may be briefly cited:

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[3] The Lane Lectures, delivered at the Cooper Medical College, August, 1905.

[4] Futcher, quoted by Tuttle: Amebic Dysentery, THE JOURNAL A. M. A., Oct. 8, 1904, xliii, 1022.

[5] Woolley and Musgrave: Bull. Bureau of Gov. Lab., Manila, No. 32, June, 1905.

CASE 1.—*History.*—The patient, F. J. B., aged 31, was a soldier in the Spanish-American War from 1898 until 1904, when he returned from the Philippines to Philadelphia. The disease developed during the first year he was in the service; it yielded to massive doses of ipecac with rest in the Philippine Hospital, but recovery was only apparent, and during the six years which he spent in the tropics he received similar treatment at irregular intervals for exacerbations, with marked temporary improvement, but the amebas were constantly present on examination of the feces. After his return to the United States, in 1904, he was treated first at the Army Hospital at Columbus, Ohio, rectal enemas being used without result; in November, 1905, acute symptoms manifested themselves and the patient sought admission to the Army and Navy Hospital in Hot Springs, Arkansas; rectal lavage with quinin and silver nitrate solutions was employed for about three months. On leaving, the patient found that he had gained eighteen pounds, and bowel movements were reduced to one or two daily. He felt himself well until November, 1906, when the intestinal features became active. In 1907 he developed a recurrent exacerbation, for which he was treated in three different Philadelphia hospitals, and in March, 1908, he was admitted to the Medico-Chirurgical Hospital, where he remained for three months. During his stay, the diarrhea, which was a prominent feature immediately after admission, markedly improved. The amebas, however, continued to be present in the dejecta and the general nutrition of the patient remained much impaired. On May 14 it was decided to perform an appendicostomy.

*Operation.*—This was done in two stages, the appendix not being opened until May 16, at which time a No. 10 rubber catheter was introduced into the cecum and the bowels well irrigated with a solution of quinin (1:4000). This was repeated daily with the most satisfactory results. At the time of the operation the patient was having from ten to twenty stools a day. After a week's treatment the number was reduced to less than a dozen in twenty-four hours, and at the end of four weeks he was having usually one, sometimes two, healthy actions a day.

*Postoperative History.*—The patient, being unusually intelligent, was able to carry out the lavage of the colon himself. Therefore he was allowed to leave the hospital and continue the treatment at his home. He gained flesh very rapidly, and when he reported to us the following September his appearance was strikingly changed for the better. He had gained about forty pounds in weight and reported himself as feeling perfectly well. We advised him, however, not to discontinue the irrigation, or to allow the fistula to close. There was never at any time leakage from the fistula. The catheter was allowed to remain only during the irrigation.

CASE 2.—One of us, in November, 1908, operated on a colored man from the island of Jamaica who had suffered with chronic diarrhea for several years. Having been treated without relief in the medical wards of the Presbyterian Hospital, he was transferred to the surgical ward, as appendicostomy had been advised by us. The result of the operation was as satisfactory as in the preceding case and the stools, which were upwards of thirty a day, were reduced within a fortnight to two or three in twenty-four hours. We have never seen a patient improve more satisfactorily in every way. He gained flesh very rapidly and within six weeks after the operation had put on thirty-seven pounds. Physiologic salt solution only was used. The patient was allowed to leave the hospital at the end of three weeks, but continued to practice daily irrigations until the time when he was last seen, in February, 1909, when he was exhibited at our clinic at the Medico-Chirurgical Hospital. He was then having one action a day and seemed to be entirely relieved of all gastric and intestinal symptoms. He was, however, advised to keep open the fistula, which manifested quite a disposition to close, and to employ occasional irrigation. There was never at any time leakage from the fistula.

We have also resorted to appendicostomy in other cases of chronic dysentery and chronic diarrhea with entirely satisfactory results—so satisfactory, indeed, that we do not hesitate to advise the operation in cases proving rebellious to medical treatment. The mortality following such operations is practically negligible, and the relief, in our judgment, almost certain. It would not be germane to consider appendicostomy, valuable as it is, in other conditions, such as intestinal obstruction, syphilitic ulceration of the colon, chronic constipation, or for the purpose of introducing nourishment in typhoid or other debilitating diseases.

### TECHNIC OF THE OPERATION

We think, however, that a few words as to the technic will not be amiss. We have always reached the appendix through the gridiron or McBurney incision. We favor, as a rule, doing the operation in two stages, believing that it is best not to open the appendix until firm adhesions have taken place between the cecum and parietal peritoneum. That it can safely be done, if necessary, in one sitting, is not to be questioned; but the mortality must be somewhat greater, and primary union of the wound to a certain extent jeopardized.

The technic as usually described in the text-books is faulty in one respect at least, and has caused more or less dissatisfaction with the operation. If the mesoappendix, as ordinarily advised, is ligated, the blood-supply to the appendix is cut off and gangrene of the organ is almost certain to follow. At least this has been our experience and that of other surgeons with whom we have discussed the subject. Our early operations were far from satisfactory on account of having employed the technic above mentioned.

It is much better to bring the base of the appendix well up against the abdominal wall, stitching the mesoappendix to the parietal peritoneum. Not only is the vitality of the appendix thereby insured, but intestinal obstruction, which is a possibility when the cecum is suspended by the appendix, as in the original technic, is eliminated. As the operation was formerly done, the dangers were much the same as in ventral suspension of the uterus, as it would be an easy matter for the small intestines to slip around and be interfered with by the appendix thus suspended. The best description of the operation is to be found in Moynihan's "Abdominal Surgery."

Since following the technic above referred to, we have always found the appendix of normal color at the end of forty-eight hours, whereas, as we have already said, it was invariably gangrenous if the mesoappendix was ligated.

The appendix is snipped off with a pair of scissors after brushing it over with a solution of cocain. Little or no pain is felt, and cocain even is unnecessary.

A No. 10 rubber catheter is at once introduced into the cecum and irrigation of the bowel practiced. While we have hitherto employed solutions at about the body temperature, Tuttle, of New York, strenuously insists on colder solutions, at a temperature of 65 degrees, believing that they are more efficient.

Some surgeons insist that the appendix should be opened at once and the operation completed in one stage. This position is largely taken to insure patency of the appendix. While this is undoubtedly a matter of importance, we believe an experienced surgeon will usually be able to satisfy himself that the appendix is patent by rolling it between his fingers.

Others have doubted the dilatability of the appendix and have, therefore, wished to eliminate this uncertainty by opening the organ primarily. It is surprising to what extent even an abnormally small appendix can be dilated, if patience and prudence are exercised. Even in small appendices, the result of appendicitis obliterans, the caliber is sufficient to admit a fairly large catheter.

Another question of importance to decide will be the relative merits of appendicostomy and cecostomy. We unhesitatingly pronounce in favor of the former operation. Cecostomy has always been more or less unsatisfactory on account of the difficulty, almost impossibility, of preventing leakage, resulting in excoriation of the skin, which is most disagreeable and painful. If, however, it is to be given the preference, it should invariably be practiced by the method introduced by Gibson, which is practically the Stamm-Kader operation, which all of us prefer in gastroenterostomies and cholecystostomies.

We are frank to say that we have been surprised to find no leakage whatsoever from the appendix when the catheter is withdrawn.

Another point of considerable importance is whether or not the fistula should be closed when the disease seems to be at an end. Much, of course, will depend on the nature of the affection. If the operation is performed for the relief of amebic dysentery, it is our belief that the fistula should, as a rule, be maintained indefinitely. Certainly such is the case should the patient contemplate residence or travel in a tropical country. When desirable to close the fistula it is most easily accomplished by the use of a Paquelin cautery or nitric acid. Truth to say, we have had more trouble in keeping open the fistula than in closing it, and have been compelled from time to time to practice judicious dilatation in order to prevent too early closure.

### CONCLUSIONS

In concluding this paper, a few points brought out in the foregoing discussion deserve to be reiterated:

1. Certain cases of old-standing amebic dysentery do not yield to either the ipecacuanha treatment or rectal lavage.
2. In these instances, fortunately rare, failure is most probably due to the advanced character and high position of the local lesions of the disease.
3. This small class of cases may be successfully treated by the combined method herein advocated, to wit: appendicostomy and systematic thorough irrigations through the appendix.

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# ELECTRIC BURNS

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In this day and age, we recognize in electricity man's greatest ally. Guarded and under control, it has become the greatest factor in the progress of industries. On the other hand, it is capable of being most destructive to human life.

Electricity is seen in two great forms: static and dynamic. The static is that seen in common lightning, while the dynamic form or current electricity is the controlled and useful form.

### FACTORS DETERMINING RESULTS OF INJURIES

Current electricity is injurious and destructive or harmless, depending on the following factors: (1) kind of current; (2) its intensity; (3) length of time of contact; (4) the part traversed; (5) the vital resistance of the body through which the current is passing.

1. It is generally admitted that the alternating or indirect current is more dangerous to life than the direct. Edson says: "Contrary to what one would expect, the higher the voltage the less the danger to life when the voltage gets up in the thousands." De Tarnowsky[1] makes the statement that injuries from the direct and indirect current of the same voltage are alike, though with the direct the liability to injury is greater because all the current passes on one wire instead of two.
2. The intensity depends on the resistance offered by the body through which the current is passing.
3. The result is in direct proportion to the length of time of contact.
4. Exposure about the heart, or current passing through or near the heart, is the most dangerous. In general the further from the heart, the less is the danger of cardiac paralysis.
5. Vital resistance, if not the greatest, is one of the greatest factors in determining the effect of a contact with a live wire. A person with a weak heart, or an alcoholic, is much more easily and surely killed than one in robust health. The same current may be harmless or harmful to the same individual at different times, depending on the condition of the body.

Horses and cows are more easily killed by electricity than man, perhaps because, in part, they have four points of contact with the earth. Dry, hard skin offers the best natural resistance; Lucas says it will take 100,000 ohms; delicate skin takes less. The mucous membrane takes about 1,000 ohms. Edson says that bone is a poor conductor, while blood is a good conductor.

De Tarnowsky, surgeon in chief of the Northwestern Elevated, has been able to draw the following conclusions from a series of experiments carried out on the structure of that railroad where pressure of 500 volts is used:

1. In dry weather it is safe to place one foot on the live rail with the other foot on the track. A lineman may even sit on the live rail with his feet on the track, provided his clothes are dry and whole.
2. A disagreeable though not painful shock is experienced while sitting on the live rail when the track is touched with bare, dry hands. Should the lineman be handling a tool, however, a flash burn would inevitably result.
3. The majority of accidents result from carelessness while handling tools.
4. Wet weather is especially conducive to accidents.

### INTENTIONAL AND ACCIDENTAL ELECTRICAL INJURIES

Electrical injuries are brought about in two ways: intentionally and accidentally.

*Intentional Electric Injuries.*—In electrocution the state has found a quick and safe means of disposing of many of its criminals. The State of New York since 1890 has electrocuted over 100. Ohio adopted the same means in 1896, Massachusetts in 1898, New Jersey in 1897 and Virginia in 1908.

Spitzka[2] of Philadelphia says that he has made postmortem examination of twenty-four of thirty-six electrocuted criminals he saw in New Jersey. The process, which he describes as follows, is similar in all instances:

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[1] De Tarnowsky, George: Illinois Med. Jour., 1906, x, 502.

[2] Spitzka, E. A.: New Jersey Jour. Med. and Surg., April, 1909.

The condemned, with head unshaved, is allowed to walk into the chair room unaccompanied, dressed so that contact may be made with calves and arms and dependent parts. His chest, arms and legs are fixed with broad straps. Electrodes wet with salt solution are fixed to head, calves and arms. At first the contact is made with 1,800 volts alternating current for five to seven seconds; then the current is reduced to 200 or 350 volts for half a minute; it is raised again to very high voltage for two to five seconds; then reduced for one minute; raised again, then broken. A second and third brief contact are made sometimes partly as precautions and partly to abolish completely the reflexes in the dead body. The time usually necessary for the walk to the chair and the first contact is one minute. With the first contact consciousness is lost. Spitzka summarized the post-mortem findings, which may be taken as identical with those by accidental injury, as follows:

1. The temperature in twenty minutes rises to 120; in one case it rose to 129.5 F.
2. After removal of the brains the temperature in the cord is often over 120 F. (said to be due to active metabolism of tissues in the dead body where all vital mechanisms are abolished and no circulation persists).
3. The heart is at first flaccid, then when exposed becomes tetanized, especially the left ventricle.
4. The lungs are usually anemic.
5. The blood is brownish and very dark; it rarely coagulates, because either the fibrinogen or fibrin ferment or both are destroyed.
6. The maximum damage is in the nervous system, but it is not always manifest, there being no gross brain changes.
7. Frequently small petechial hemorrhages form in the nervous system and elsewhere, at times, larger hemorrhages.

Oddright[3] did a post-mortem on one who received 22,000 volts, and found both lungs engorged; the right heart contained fluid blood; there were no external marks or lesions on skin.

*Accidental Electric Injuries.*—In most industrial plants injuries are inflicted by contact with the alternating current when a voltage of from 50 to 550 is carried. The street arc-lights of Evanston are grouped in circuits of fifty lamps, each carrying a voltage of 80. A short circuit would give a shock of from 50 times 80 or 4,000 volts. The Northwestern Elevated and the local surface lines operate with 500 to 550 volts. Jellinck[4] says that 100 volts demand precaution, 200 volts may be dangerous and 500 fatal, depending on the resistance offered. Paine[5] mentions a case in which a man was electrocuted in his office while using his telephone. Inquiry revealed the fact that a primary or feed wire of the arc light system and the telephone wire with about 24 volts were crossed outside the building. The *Boston Medical and Surgical Journal*[6] mentions another case of a woman electrocuted at home in a similar manner by a short circuit formed when she touched the telephone with the cuff-button on one wrist, while turning on an electric lamp with the other hand. Lucas mentions a case in which a man in Prague was killed with 95 volts. He was barefooted in a mixture of sugar and potash, thus making his body a good conductor with small resistance. Lucas reports another case in which a boy was almost electrocuted by a live wire; on the ninth day he died of septic exhaustion from gangrene of all extremities following the plugging of arteries. Lucas reports a third case in which a man fell on a cable carrying 10,000 volts. A fellow workman, hearing the roar and seeing the flash of escaping current, ran to aid him. After throwing off the switch and relieving the wire of its current, he pulled the man away and began artificial respiration on the apparently lifeless body. The patient was revived in three minutes. Another man was thrown fifteen feet across a room after coming in contact with 2,500 volts. Another touched a 2,500-volt wire and was thrown against a 10,000-volt wire and fixed there. A helper tried to pull him off and he, too, was electrocuted. Another man in London, a heavy drinker, was killed with 90 volts.

Haman[7] reported a case of a 13-year-old boy who came into contact with a 5,500-volt wire on a grand stand. Dry gangrene of left arm set in from burning off of axillary artery close to body. Recovery is reported.

The worst case with recovery I have found in the literature is that reported by Dr. W. R. Edson[8] of Seattle, and only approaches in severity the one I have to report this evening. In Dr. Edson's case the patient's forehead touched a live wire and charred the outer table of his skull about 2 cm. in diameter. Recovery in five months is reported.

### MANNER IN WHICH ELECTRICITY PRODUCES DEATH

How does electricity kill? In 1894 D'Arsonval said that a patient was in a state of suspended animation and could be revived by active respiration. He even went so far as to state that patient was killed by post-mortem knife. But Dr. P. H. Cunningham[9] of New York State and Prevost and Batelli of Geneva, Switzerland, did most to settle the question and to prove that it is heart paralysis that kills. By experiment they have shown that, when the current is turned on, all the muscles in the heart become in tetanic contraction, when the current is broken the heart becomes dilated with blood and enters into a condition of fibrillary contractions, the individual muscle fibers contracting irregularly, owing to disturbance in the intracardiac nervous mechanism. Death is due in most cases to cardiac paralysis. The cessation of respiration is a secondary phenomenon, though usually simultaneous with cardiac paralysis.

Spitzka says—though he gives no experiments to prove his statement—that it is a curious fact that with good contact and high-tension current cardiac paralysis does not follow, but rather only respiratory paralysis. On the other hand, poor contact and low-current cardiac paralysis does occur.

### SYMPTOMATOLOGY

The symptomatology is divided into the immediate, local and general, and the late.

Under the immediate local symptoms we find burns of skin and hair, puncture and rupture of tissue, superficial necrosis, metallic impregnations of surface tissues, hemorrhages, edema, erythemas and "lightning figures." Under immediate general effects we find loss of consciousness and nerve function generally, paralysis or muscular spasms, disturbances of respiration and cardiac action and high temperature.

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[3] Oddright: Dominion Med. Month., 1905, xxv, 81.
[4] Jellinek: Tr. Clin. Soc., London, 1905, xxxviii, p. 92.
[5] Paine: Boston Med. and Surg. Jour., 1906, clv, p. 741.
[6] Boston Med. and Surg. Jour., April 18, 1907, p. 518.
[7] Haman: Hahnemann Month., 1907, xlii, 211.
[8] Edson, W. R.: Northwest. Med., 1905, iii, 229.
[9] Cunningham, R. H.: New York Med. Jour., 1899, lxx, 581.

The later affections include lessened bowel activity, meteorism, albuminuria, icterus, incontinence and retention of urine, bloody urine, arterial rigor or spasm of arterioles, acute edema of joints; various eye symptoms, as blindness (from excess of ultraviolet rays), conjunctivitis, iritis, cataract, dislocation of lens; ear symptoms, as rupture of tympanic membrane, deafness, bleeding; thermal changes—rise of temperature to 38 or 39 C. (100.5-102.4 F.), amnesis, neuritis, epistaxis, etc. The most characteristic appearance of an electric burn is an ashy-gray spot or lesion, without an area of inflammation, an area of edema, and the slough which follows considerably beyond the limits of the burn, due probably to the coagulation of cells by heat not sufficiently intense to cook them.

### TREATMENT

The treatment is divided into the immediate or first aid, subsequent, and the later. The immediate treatment demands that the victim be taken out of the circuit. This is accomplished by the use of a dry wooden pole or rope, even one made of twisted clothing, this being used to drag him forcibly away from the live wire. Properly insulated pliers may be used to cut the wire. The *Scientific American*[10] makes the statement that chemical fire extinguishers were found to be dangerous in the hands of rescuers when the stream is played on a live wire. Instances are numerous in which one workman or a spectator has also been electrocuted while attempting to rescue one still in contact with the wire. The immediate shock may vary from a disagreeable sensation to loss of consciousness and death. There may be sufficient shock to cause a violent contraction or expelling with loss of consciousness which may last from a few minutes to a few hours, often with convulsions and death, or it may only cause faintness for a few minutes, vomiting, the subject being all right after a few hours.

When there is any disturbance of respiration, artificial respiration, about eighteen times a minute, is employed, the patient's head being raised and tongue out, care being taken not to make pressure on the region of the stomach, lest its contents be forced into the larynx. Crile says:

> After seven or ten minutes chances for recovery are poor. Circulation and respiration may be reestablished, but consciousness is not regained because after that length of time of cerebral anemia, brain recovery is poor.

Wounds should be dressed temporarily to keep clean and the patient removed to a hospital. If wounds have been infected, wet dressings are indicated; if not, dry dressings. Shock is treated as usual. De Tarnowsky considers electric wounds sterile, McGowan of the Edison Commonwealth Company does not. De Tarnowsky uses dry dressings in all cases which he knows are clean; McGowan uses wet on all.

Both obtain good results. Edson says that it takes one and a half to three times longer to heal electric wounds than common burns.

### REPORT OF CASES

Case 1.—On Oct. 26, 1908, the patient, W. L., aged 34, received 2,200 volts alternating current while working on the ground, on his knees, without gloves. The resistance there was practically nil. Just how long he remained in contact is not known; when fellow workmen reached him he was in contact with the live wire and seemed lifeless. The line men, remembering their instructions, withdrew him from the current as quickly as possible, in this instance knocking him loose with a wooden box. After a few minutes of coma, a condition of wild delirium supervened in which condition I found him. The following injuries were found: 1. At hair line over right eye, deep wound 1½ inches long by 1 inch wide, down to and including the skull, leaving a black streak on periosteum ¾ by ¼ inch wide. 2. Right hand: palmar surface and middle phalanges of fourth finger received deep burns. Thenar eminence burned deeply, to but not including the tendon of the flexor longus pollicis. 3. Left hand: superficial burns on ulnar and thenar eminences. Tip of left thumb, outer side: half of nail and bone burned. 4. Median line over lower portion of sternum: superficial circular burn 3 inches in diameter. 5. Tip of right ear broken. 6. A small burn ½ inch in diameter on occipital portion of scalp. The burns on the forehead presented an ashy gray appearance without an area of inflammation, but with considerable edema. This area extended downward from the skull, though more superficially, to the line of the eyebrow. The patient was anesthetized and the wounds cleansed with 1 to 5,000 bichlorid, dried, touched with tincture of iodin and dry dressed. The following day wet boric dressings were applied. Sloughs were removed as fast as they became detached in the next two weeks. On all sides, all wounds sloughed so that their greatest diameter was two and three times the original size.

On Nov. 16, 1908, at the Evanston Hospital, with the assistance of Dr. Parks and Dr. East, skin was transplanted from the thigh onto all the wounds. The skull-wound, with its periosteum gone, showed little inclination to cover over by itself, so it was left uncovered.

On April 7, 1909, Dr. Danforth, Dr. East and I operated again at Evanston Hospital, this time doing a plastic operation on the skull, cutting away the V-shaped scar tissue above and below the wound. At this juncture we found that the outer table of the skull was practically loose. It was chiselled free and its bed curetted. Then, by deep mattress sutures, all was covered. Recovery was uneventful except for a small stitch abscess. The result was satisfactory. The patient has, since June 1, been back to work after seven months' absence. Slight deafness and slight deformity of right hand are the only permanent sequelæ.

Case 2.—G. K., aged 22, while standing on a ladder painting a pole, received 10,000 volts alternating current, Feb. 6, 1909. The current ran up his left arm, inflicting six superficial wounds, from his elbow to his thumb. When he was shocked, he jumped or fell from the ladder, breaking contact and saving his life. Uneventful recovery in three months.

Case 3.—A workman (Aug. 27, 1909) fell fifteen feet from a pole after he had ascended it, "to see if he could see anything to do for the burning transformer." The shock of electricity caused a small burn on the right arm. The interesting point in this case is that the patient simultaneously had hemorrhages into the scleræ, stomach and intestines. Recovery was uneventful and complete except for a weakness in the back from the fall.

520 Davis Street.

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# ORAL PROPHYLAXIS *

ALPHONSO IRWIN, D.D.S.
CAMDEN, N. J.

### AIM OF PROPHYLAXIS

The aim of the prophylactist is to obtain an immune condition of the mouth. The purpose of operating, the object of manipulation, the end of treatment is to produce immunity from disease. Surgeons and dentists are a unit on this point. It is a universal ideal for which we are striving.

But we differ in regard to the selection of instruments, the art of operating, and the methods of surgical treatment. Let each man choose for himself the means by which he can accomplish the best results. The subject has been presented in the ablest manner possible, in all of its phases, before the societies and in the journals. I leave the consideration of prophylaxis in relation to surgery to the oral surgeon.

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[10] Scient. Am., March 20, 1909.

* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

"The prevention of disease by operations performed with instruments on the mouth" is the clinical definition of oral prophylaxis. It is not my purpose to detail the processes by which an immune condition of the mouth is established; that would take me outside of the art and bring us into the science treating of bacteria, germicides, asepsis, hygiene and sanitation. But, in passing, I would observe that, inasmuch as oral asepsis is transient (for bacteria are back again multiplying, half an hour after we sterilize the mouth), surgical cleanliness, supplemented by personal cleanliness, is all the more imperative. Cleanliness by personal effort is attainable, and this state of oral cleanliness is urgently needed by the public. Our clientele are well cared for, but it is doubtful if 75 per cent. of the population of the United States practice the simplest precaution in oral prophylaxis, i. e., use a tooth-brush. My object, therefore, is to make a practical application of oral prophylaxis to the needs of the public. This calls for some consideration of the subject as a humanitarian principle.

### PROPHYLAXIS AS A HUMANITARIAN PRINCIPLE

Oral prophylaxis, considered as a humanitarian principle, is the practical application of knowledge and skill for the benefit of mankind. No man should live for himself alone. He owes something to his neighbor. Oral prophylaxis is one branch of dentistry that can be universally applied for the benefit of the public. The intelligent dissemination of the practice of oral prophylaxis among the public is incumbent on the practitioner. When we consider that in the United States alone there are 30,000,000 persons of teachable age, we have a task that must tax the abilities of the most ambitious portion of the 40,000 dentists who should grapple with the problem, in this country. If we should venture to enlarge the crusade and take in the 1,600,000,000 people who inhabit the earth, we could estimate that at least 500,000,000 people of teachable age should be taught to take care of the mouth. I challenge anyone to prove that even 10 per cent. of this number take any care of their mouth. I leave the solution of this vast problem to dentists imbued with the spirit of Livingston, the endurance of Stanley, the energy of Roosevelt. It is exceedingly doubtful if one-third of the 20,000,000 children in our schools take any care of the mouth whatever. It is through the public schools that we must hope to inculcate the principles of oral prophylaxis. The minds of the pupils between 5 and 17 years old are receptive and appreciative of the truth. The physical destiny of the child is determined by the seventeenth year, so that the habit of prophylaxis should be indelibly instilled in its mind during this period. It is through the children that we must enlighten the public and establish a habit of preserving the mouth and teeth. Attempts are being made to impress on the minds of children the value of oral prophylaxis, but a concerted, united, universal movement is needed in order to achieve results. The strategic value to the professions alone, gained by securing the confidence and cooperation of the children, is reward well worth striving for, even if there is no monetary compensation. The boy of to-day is the man of the morrow; the girl of to-day is the mother of the future. Therefore give us the public school children of America and we will enforce sanitation; avert epidemics; starve pestilence; produce a nation of thinkers and workers, possessing sound minds in robust bodies, instead of a race of toothless drones, dyspeptics, hypochondriacs, prospective lunatics and degenerates. Give us the school children and we will solve the most intricate problem in oral economics, establish the cause of practical oral prophylaxis in the minds of the American public forever; popularize dentistry so that it will reach a degree of usefulness hitherto undreamed of, and elevate surgery to the highest pinnacle of fame in the estimation of the public.

Prof. Charles W. Eliot, of Harvard University, has well said: "The subject of the care of the children's teeth in the public school is only a part of the general forward movement which should enlist every force of society, private and public, for behind it lies the movement of the whole people for improved government, preventive medicine and improved facilities and conditions of labor."

Believing this statement to be correct, I conclude that the basic proposition is that oral prophylaxis is an economic problem in the school room demanding immediate solution.

### PROPHYLAXIS AS AN ECONOMIC PROBLEM IN THE SCHOOL ROOM

The mouth may become the "gateway of evil." Through this "gateway" myriads of germs may pass back and forth into the alimentary canal whence they can infect the human body; while by the reversal of the process the mouth may be infected by germs from distant diseased organs. From 1,500 to 14,000 pathogenic bacteria are inspired every hour by healthy persons.

Dr. S. E. Tracey has recently called attention to the importance of oral prophylaxis to the abdominal surgeon in preventing pneumonia after anesthesia, and septic infection, after operation on the abdomen. Medical and dental journals contain frequent references to these points, and the testimony is both ample and conclusive from the practitioner, from the press and from the bacteriologist.

Therefore the statement that every time a diseased person breathes, coughs, hawks, sneezes, or spits, he sets in motion ever-widening vibrations of bacteria-infected air, is of peculiarly sinister import in reference to the school room. The school may become a menace to the health of the commonwealth. Epidemics may originate from oral infection. The commonwealth faces an economic problem in prophylaxis. It is cheaper to prevent disease than it is to treat it. It is easier to preserve children from suffering than it is to cure them. You would rather save your own children from suffering than have a chance to display your skill as a surgeon. Why not save them from loss of time, loss of education, loss of service, loss of health, possibly death?

If we attempt to solve this economic problem as a world-wide proposition, we are appalled by the magnitude of the task, but if each dentist will handle the problem as it lies at his door, namely, in the nearest public school, the solution is easy. The avenue through which we must get into touch with the public is the introduction of oral prophylaxis into our schools. Accustom the children to the sight and skilful use of surgical and dental instruments so that confidence and desire for oral care will supplant terror and aversion to mouth surgery. Enlist the public school children of this country in the crusade for oral prophylaxis; by advocating it assist in the work, and you have solved the problem.

ORAL PROPHYLAXIS IN RELATION TO SCHOOL DENTISTRY

Oral prophylaxis is being urged in the public schools throughout New Jersey, New York, Massachusetts, Michigan, Pennsylvania, and other states. Its introduction is advocated wherever an opportunity occurs. In some cities the movement is meeting with success. I will summarize some of the recent work accomplished in the East.

Dr. J. Wagner states that in Elizabeth, N. J., among the 1,000 pupils examined, 76 per cent. had defective teeth. "If there were some means of inducing every child to use a tooth-brush and powder, at least in the morning, fully 50 per cent. of the carious teeth would not exist."

The mouths of 1,525 school children in Ann Arbor, Mich., have been examined by Dr. Russel W. Bunting. He finds in pupils from 5 to 17 years of age 2,068 carious teeth, 142 cases of malocclusion, 3 cases of Hutchinson teeth, and 7 high V-shaped arches.

In Butler, Pa., out of 1,015 children examined, 994 had teeth needing immediate attention and 325 had never visited a dentist. In Erie, Pa., 1,271 children needed attention out of 1,411 examined. Dr. W. F. Harrer examined 247 pupils in the public schools. About 3 per cent. used the tooth-brush daily; 1,699 teeth were defective; 29 had putrescent roots. Sordes and congested gums were marked.

In New York City, with its 800,000 children of school age, and an enrolment of 630,000 pupils, there is but one school dental clinic established, and that in connection with an industrial school. Dr. H. L. Wheeler, head of the clinic, states less than 10 per cent. of the children of the city receive dental care; about 75 per cent. of the New York school children have never been inside of a dentist's office. Rochester led the movement in this country in 1905 by establishing free dental school clinics.

In Brookline, Mass., out of 1,284 children examined, 63 (12.5 per cent.) were rated as good, 428 (33⅓ per cent.) as fair or bad. Boston has a population of over 100,000 school children. It is estimated that 75 per cent. (75,000) need dental treatment. Dr. David S. Scannell, a member of the Boston School Board, declares that the college clinics, hospitals and dispensaries are unable to provide dental treatment for these children. He admits the need, deplores the condition, and excuses the school board on account of lack of funds. Boston and hundreds of other cities are put to shame by the little city of Strasburg, with its $60,000 building devoted to the prevention of human suffering by free dental treatment of public school children. It is not lack of dollars, but lack of sense; it is not lack of interest by the practitioner, but it is lack of consent and cooperation bestowed by the authorities, that retards the introduction of oral prophylaxis by dentists for the benefit of the public school children. If these were freely accorded, ways and means of defraying the cost would soon be found in this country.

Mexico has established free dental school clinics.

The effort to introduce oral prophylaxis is more advanced abroad than at home. "The treatment of *children's teeth in* public schools is a subject of live *interest in Europe* and engaging the attention of the *chief cities.*" The Second International Congress on *School Hygiene, held* in London, at which 2,000 delegates from all parts of the world took part, with the *treatment of children's* teeth in public schools as the *chief topic, is proof of this* interest. School dentistry has been considered of such vast *importance t*[illegible] already been adopted by thirty-three of the chief cities of Germany and fifteen cities of other countries. Oral prophylaxis has reached a high state of development and usefulness in Germany. Mülhausen, Darmstadt, and Strasburg possess model school clinics.

In 1902 a dental clinic was established in Strasburg which is now maintained by the state and operated for the benefit of children of school age. "This establishment has for its object the sanitation of the mouth in the young, accustoming the children and parents to a rational care of the teeth, thereby elevating the general health of the people at a modest expense." The results have proved that, although dental treatment is one of the most important factors in maintaining good health, no other institution can be worked so successfully at such a small expense. In five years' work in Strasburg and suburbs, 90,017 children, altogether, from the elementary and intermediate schools, received free treatment. The feasibility of this scheme should appeal to municipal and state authorities when the amazing results are shown that the average cost of examinations and extractions was but seven cents each, and the average cost of treatment and fillings less than twenty-five cents each. In Strasburg the municipal government has authorized the erection of a building for the dental treatment of school children, at a cost of $60,000 (Report of Professor Jessen).

In Great Britain, Dr. William Fisk, Secretary of the School Dentists' Society of England (founded in 1898), informs me that the dentists appointed at a fixed salary per annum to take charge of the pupils' teeth can do their work to the best advantage to themselves and their charges in the poor law schools of Great Britain. The poor law and destitute children are well looked after with the sanction and approval of the local government board. The vast elementary school population, representing the working classes, numbering about six millions, have nothing done for them. In many instances, dentists do the necessary work in benevolent institutions supported by the public schools of England.

In 1900, at the Third International Dental Congress in Paris, Dr. Elof Forberg, of Stockholm, announced the results of the examinations of 16,000 public school children in Sweden. Professor Limberg, of St. Petersburg, Russia, found that 95 per cent. of children's teeth decayed between 5 and 16 years of age.

The importance of oral prophylaxis was discussed at St. Louis by the Fourth International Dental Congress, and it has been kept before the profession by the many national organizations since, notably in Austria, Belgium, Denmark, France, Germany, Great Britain, Italy, Japan, Mexico, Russia, Sweden, Switzerland, United States. The boards of dental examiners in the United States now ask from three to five questions on oral prophylaxis in examining candidates for a license to practice dentistry, in accordance with the agreement reached with the National Association of Dental Examiners in 1907. The efforts of these organized representatives of the general practitioner of dentistry, as well as the educational institutions of the civilized world, are causing the movement to take more definite shape and enlist the active cooperation of the most intelligent members of all professions. Will the American Medical Association endorse the introduction of oral prophylaxis among the children of our public schools by dentists?

I would submit five propositions for consideration:

1. Oral prophylaxis is the art of preventing disease, deformity and injury to the mouth by means of manipulation, instrumentation and skilful surgical treatment.

2. Practical application of oral prophylaxis (prevention by surgical instrumentation) should be made in behalf of public school children.

3. The consent and active cooperation of the school authorities is the most essential consideration now to secure the introduction of oral prophylaxis into the public schools by dentists.

4. The practical application of oral prophylaxis is a problem in economics, because it is the most effective means of combating the spread of contagious disease from oral infection among the public.

5. The solution of the problem lies in the establishment of free dental school clinics for the introduction of oral prophylaxis by dentists.

425 Cooper Street.

## ABSTRACT OF DISCUSSION

Dr. A. Zentler, New York: The essayist makes the statement that in New York there is only one clinic in connection with the Children's Aid Society Industrial Schools. I presume that it is since the essayist got his information that the second clinic was established, as it had been in existence only a short time. The Strasburg clinic is not supported by the state but by the city. Its establishment is mostly due to the efforts of Dr. Jessen. The city authorities of Strasburg would have done nothing had it not been for Dr. Jessen's efforts. He has proved to the city the need of school clinics, and the city has given its aid. In this connection I think perhaps it would be a step in the right direction in this country, in order to prompt the authorities to do something to this effect, if the dentists in a body were to take some action through which they will prove the necessity of the clinic. In a paper which I read before the First District Dental Society of the State of New York about a year and a half ago, I emphasized this. I have tried to show to the members of that society that the success of the school dental clinics abroad and free dental clinics in general was due only to the profession proving the necessity for these clinics by first doing free work, and then showing that it cannot be continued unless the city or state gives support. I do not mean to say that I feel it is the duty of the profession to go ahead and do this work from a charity standpoint, because that would not be right; but I mean to say that members of the profession must prove first that it is needed, and in this way force the city and state into keeping up what they have begun. This has been done in Germany, Switzerland and France. It has also been done in England, although I cannot state with certainty that in England the city or state gives support to it.

Another point which Dr. Jessen has proved is that in order to do what is necessary for the children in schools, and for that matter in any free dental clinic, the dentists in charge should be paid by the city or state and paid so liberally that they can afford to refrain from private practice. Dr. Jessen believes that no man can take care of a clinic and have time for private practice. In New York there are 300,000 children who need dental care, and unless a man can give his entire time this cannot be accomplished. Of course it is hard to do it in this country, because I do not believe that there is here a system of pensioning after a certain number of years, similar to the one existing in Germany, where a dentist giving his service to a free dental clinic becomes an employee of the city or state—what we call here the civil service—and as such is entitled to an increase in his pay from year to year, and after a certain number of years of service to be retired on a pension. With such prospects, one may refrain from private practice. All the efforts that are made in this direction seem to me to be rather futile until some measure is taken by the profession at large, and perhaps this section, in representing dentists in the American Medical Association, is the proper channel through which the necessity of such a movement be put before both the profession and the authorities.

Dr. E. A. Bogue, New York: It is evident that Dr. Zentler does not realize the necessity for plowing up the field and harrowing and sowing seed before gathering the crop. Many years ago Dr. Atkinson worked for years in New York and Brooklyn to establish clinics. Seven or eight years ago a man at the head of the Hamburg clinic wrote me to be very careful not to try to establish a dental clinic where the operators were not paid, for it would be sure to fail. This was apropos of an effort made to utilize a gift which had been made in New York and was to become valid as soon as the testator died, and which would devote a certain portion of the income to the care of the teeth of the poor. I wish to emphasize the necessity for all these preliminary efforts which are being made. I also second Dr. Zentler's statement that possibly this body may be of great importance in urging prophylactic measures of all kinds which shall be exerted in behalf of the indigent children and paid for by the state or city as the case may be.

Dr. A. Irwin, Camden, N. J.: The dentist has been accused of practicing dentistry from selfish motives, and to a certain extent he is guilty; but it is also a fact that the dentist has done his duty on many occasions by pursuing his profession for the benefit of mankind. I believe it is the duty of every practitioner to give a certain amount of his time and work without compensation. The physicians in the public schools have been so generous as to monopolize entirely the examinations for discovering the physical condition of the pupils, to the exclusion of the dentist. As a practitioner I am tired of that state of affairs. I think it is about time the dentist was admitted as a member of the corps of examiners to examine the teeth and mouth of the school child. I have been engaged in this work since 1896 in New Jersey, and have met with such determined opposition that the movement was necessarily abandoned for a time. In 1900 while abroad I picked up some information which compelled me to conclude that the United States was far behind other countries in this respect and that we were really guilty of neglect in not attending to the teeth of the children of the public schools. We do not want to pauperize the children of the public schools. If the movement is put on the basis of a dispensary or a free clinic, then the children are pauperized; whereas, if a clinic is established for public school children alone, they take a certain amount of pride in it and they will seek services there and will spread the information broadcast. I am glad that the fact has been brought out that Dr. Ernst Jessen was the father of this movement in Germany. My information comes directly from Professor Jessen and also from Dr. William J. Pike, who is not only a dentist but is now the American consul at Kahl Baden. I think that this Section on Stomatology of the American Medical Association is the proper body to indorse this movement, and this paper was written with the object of soliciting the interest of the members and securing their endorsement of the movement for establishing free dental clinics for public school children.

# THE NATIONAL FORMULARY

## ITS GENESIS, CHARACTER AND UTILITY *

HENRY P. HYNSON, PHARM. D.

BALTIMORE

Coming from those who had most to do with the conception and inauguration of the National Formulary and from those who have maintained it and are largely responsible for its present character, I confess all things, own all things demanded by truth, and from those who would unkindly criticize and condemn I ask the same tribute to truth, as it lays bare, in proper sequence, contemporary conditions that are exactly responsible for what the formulary has been and is to-day. In this generous, open frame of mind, we shall be able to reason harmoniously together.

"Eye of newt and toe of frog,
Wool of bat and tongue of dog,
Adder's fork and blind worm's sting,
Lizard's leg and owlet's wing."

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

While entirely fanciful and not a formula for the relief of trouble, this quotation illustrates the principle underlying the original compound prescription, its superstitious origin and haphazard ensemble little less pointedly than do several formulas now holding place in the Pharmacopeia than does *compound mixture of* glycyrrhiza, containing opium, with all its alkaloids, camphor, benzoic acid, antimony and potassium tartrate, nitrous ether, alcohol, as potent agents, combined with extract of glycyrrhiza, after which the mixture is misbranded (according to Kebler), wine, sugar and acacia; and such as the formula for compound cathartic pills, containing extract of colocynth, aloes, resin of scammony, gamboge, resin of jalap, mercurous chlorid, soap and cardamon.

It may be wondered if, in the ages of anesthetized gravity that are to come, the witches of our day will be made to sing:

Lymph of goat and gland of sheep,
Scum of oil from well, bored deep.
Juice of bugs and pig's ovum,
Horse's blood and milk that's bum.

Why not acknowledge, without contest, the depth of ignorance from which we are slowly, very slowly, but surely emerging; ignorance—better to say want of knowledge—peculiar to no century of the world's history and characteristic of all peoples. If we are not now blessed with the exact and complete knowledge necessary to lead us out of or away from the error and abuse of the compound prescription, we are happy and blessed in knowing the kind of knowledge necessary to finally make our way clear. "What is the exact condition?" "How does it compare with normal conditions?" "What is the effect of the agents I may command on the first and on the second condition?" "How may one condition be changed to the other with the agents I can command?" When these questions are accurately answered, the compound prescription will disappear, though the modified agent may not. And then will physiology, pathology, pharmacology and therapeutics have set the lamp of truth before pharmacy. It is both illogical and unfair to charge pharmacy with insufficiency and fault, when it must, of most natural and reasonable necessity, follow these other branches of medical science.

Let the pharmaceutic enthusiast be pardoned for claiming that it is because pharmacy has outrun these collaborative sciences (largely owing to the fact that pharmacy has been greatly assisted by the wonderful and more exact developments in chemistry and physics) that it has so often made missteps. The child, while still a child, is subject to the control of the parent and the question of responsibility, in such cases, is well established.

It was the want of knowledge, coupled with too much knowledge, about the middle of the last century, strange as this may seem, that forced an avalanche of specialties on the medical world. The newly found ability to produce concentrated forms of medicines and to separate active principles, together with a better knowledge of solvents and preservatives, made it possible for pharmacists, at that time, to produce many new and attractive forms of remedies, so-called, "elegant" forms, which were greatly encouraged by the regular practitioner of medicine, largely because of threatening activity of the disciples, true and otherwise, of the medical magician, [illegible] n, now so entirely eclipsed by the mystic [illegible] of the prophetess Eddy. [illegible] remembered that there was no Council on [illegible] and Chemistry in those days—no restraining hand of any kind—and the awakening came only when the physician was confused and the pharmacist was overburdened. Local formularies were thought to be the remedy and were, undoubtedly, the necessary starting-points for the reform. These were not conceived and brought forth entirely by pharmacists, but were often the suggestions of physicians, especially of physicians connected with hospitals. A number of these local formularies were published; almost every large city had one and the preparations of each were largely used by local physicians. In the preface to one of the earlier publications bearing date of March, 1867, we read: "The main object . . . in publishing these formulas is to produce a greater degree of uniformity in prescribing and compounding a number of pharmaceutical preparations of an unofficial character." In a note "To the Medical Profession," published in connection with another local formula (1884), we read: "The favor which some of the preparations of the so-called 'elegant pharmacy' have found with the medical profession during the past ten or fifteen years has induced many manufacturers of elixirs, syrups, emulsions, etc., to vie with each other in the introduction of new combinations or to imitate each other's products as soon as any of the latter appear to have acquired ready sale." Please notice when this imitating began, by whom it was first practiced and that it (the imitation of one manufacturer by another) was one of the causes that led, finally, to the advent of the National Formulary.

From this distant date there is no difficulty in discerning the difficulties and inconveniences arising from a multitude of local formularies, especially where there was much traveling. Physicians of wide reputations and their clients, at many different points, suffered most; and it was to consolidate the local formulas into one volume that the publication of the National Formulary was undertaken by the American Pharmaceutical Association. It was to insure uniformity, as far as possible, and to circulate information regarding local formulas that the work was first contemplated; and, while it was hoped that the formulas published would become standards, so far as character of contents and pharmaceutic structure were concerned, it was never intended that the book should be considered an ethical, therapeutic or pharmacologic standard for the medical profession. It has never been thought, by sensible pharmacists, that it is within their province to set such standards for medical men, or that it is the pharmacist's privilege to discriminate in supplying the demands of physicians who are recognized and reputable members of the profession. The American Pharmaceutical Association made an effort to furnish uniform and efficient formulas for preparations which were being largely prescribed by physicians in the different parts of the country in which the membership of the American Pharmaceutical Association resided. The requirements were that local formulas, to remain useful, must not be greatly changed and that the compilation must be sufficiently comprehensive to make it national in character. In other words, the National Formulary was a book of the times and for the times and intended to serve practical purposes, in all of which it demonstrated its utility.

The Formulary, undoubtedly, has served a good purpose and has developed and improved in all regards as rapidly as might be expected. Certainly its progress toward perfection has been much more rapid than was that made by the Pharmacopeia in its earlier days. The American Pharmaceutical Association would be rashly unjust to itself did it assume entire responsibility for the therapy and nomenclature; the Association must share whatever is creditable as well as blameworthy with the medical profession in these particulars. For the pharmacy, including pharmaceutical chemistry, the Association should and must assume all responsibility.

The adoption of an unfortunate plan or policy for the earlier editions may be held to blame for most of the bad pharmacy. Nearly all the formulas were constructed in a manner which, it was thought, would enable the pharmacist to prepare, extemporaneously, sufficient of the preparations to meet immediate demands. This has been found to be impracticable and undesirable; when the formulas are constructed to provide for permanent products, the poor pharmacy complained of will disappear.

The recognition of the Formulary by the government has unexpectedly and greatly enhanced its importance and has led the American Pharmaceutical Association to order a complete and rigid revision. The next edition, therefore, will be as nearly ethical and scientific as the exigencies of actual, present-day medical practices will permit. The Formulary must still strive to meet the demands of the physician-pharmacist, the busy practitioner, the prescriber who is seeking variety of acceptable vehicles and the psychologist who needs placebos. It must meet the demands of the medical man who claims that he knows what he wants and insists on having it.

Touching these questions of elimination and additions, the last report[1] of the Committee on Revision of the Formulary quite pointedly and justly, I think, offers the following:

> Touching the shortcomings, we recommend that conservative action is necessary in connection with the introduction of changes, that the needs of all classes of pharmacists may be met and that the question of what is or may be a medicinal preparation, or what may be obsolete or polypharmacal, calls for liberal interpretation for the purposes of the Formulary.
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> Regarding eliminations, the committee agrees with the chairman that the therapeutics or therapeutic incompatibilities of N. F. preparations are not within the province of the National Formulary Committee. The physician may reasonably be expected to know what he wants and if he chooses to prescribe preparations which are therapeutically incompatible, it is the duty of the pharmacist to supply what is ordered. The committee, therefore feels that it is not justified in dismissing or rejecting any preparation simply because it is stated to be therapeutically absurd, but feels it to be its duty to supply formulas for medicaments which may be prescribed by physicians if the demand for these is sufficient to justify our attention and if an acceptable formula can be devised or obtained. We think that some such statement should be placed in the preface of the next edition of the N. F. Individual pharmacists may point out the absurdity of some of the combinations and aim to discourage their use and demand, but the physician must decide what he wants and if his therapeutics are at fault, it is not within the province of the National Formulary officially to criticize or correct them. Regarding detailed consideration of eliminations from the Formulary, the committee wishes to act conservatively and the matter has been referred to a subcommittee, which will report on any doubtful article on the basis of actual demand as shown by statistics or other information.
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> Your committee agrees with the chairman that the acceptance of formulas for any new preparation should be based on considerations of merit in the article, of demand for the same and on the reliability of any formula which may be offered. On the other hand, we must be equally careful to omit no meritorious preparations that conform to these requirements. The Formulary may also include and give suitable definitions for all articles that serve as ingredients for preparations described therein and for which *no* standard of *quality and identification* is given in the U. S. P., or for which an authoritative standard may fail to be adequate for a correct recognition, either as to kind or quality.

It is only fair that special attention should be called to the misdirected attacks made by the hypercritical on a number of the formulas contained in the book and on those physicians who prescribe the resulting products. If it were known that many of these physicians are entirely unmindful of the inactive medicinal contents of the preparations and use them, just as the compound syrup of sarsaparilla and the compound mixture of glycyrrhiza of the Pharmacopeia are most used, as vehicles with regard for their taste, color and odor only, then this criticism would appear little less than ridiculous. It should, however, serve a good purpose in stimulating the Committee on Revision to offer a larger and more varied number of vehicles than have heretofore found place in the Formulary.

The American Pharmaceutical Association is deeply sensible of the honor done it and its publication by the patronage it has had from the medical profession, especially as represented in this great American Medical Association, its various organizations and subdivisions. The American Pharmaceutical Association also acknowledges, with much happiness, the honor done it and the assistance afforded by the recognition the general government has given the Formulary. Just and helpful criticism from all concerned is sincerely requested, and if praise and encouragement may be worthily bestowed such will be most gratefully received.

423 North Charles Street.

## ABSTRACT OF DISCUSSION

DR. A. JACOBI, New York City: I am very sorry *to* be compelled to withdraw my confidence in the National Formulary. I have used the National Formulary because I felt sure that here I had the collective wisdom of a number of superior men. I felt sure when I prescribed one of the numbers in the National Formulary that I was on pretty safe ground, that the Association of Pharmacists should not expect any doctor to know all about incompatibles. Most physicians are very poor chemists, as Professor Hynson knows very well, and I have not the slighest doubt that a large number of prescriptions go into the drug store which provoke a smile—now and then a sneer. So far as I am concerned, I prescribe exactly according to the Pharmacopeia and National Formulary, and I have just been told that I am on very slippery ground. Now, if there is to be a new edition of the National Formulary I *should* say that the American Pharmaceutical Association is in honor bound to consult its own chemical knowledge and not the chemical ignorance of physicians. There are too many prescriptions in the Pharmacopeia, too many prescriptions in the National Formulary. In both of them we have been disappointed. The Pharmacopeia of the United States has degenerated; the so-called edition of 1900 is by far the inferior of the edition of 1890, a number of quack preparations have been included, and it is by no *means* to-day the correct and safe guide that it was considered formerly. If acetanilid is taken up bodily into the Pharmacopeia, as it has been, it is a sin and a shame and a scandal, for if there is any dangerous drug anywhere it is acetanilid. You may tell physicians five hundred times that they are dealing with gross poison in prescribing acetanilid, and to-morrow they have forgotten it. Whatever is printed they take for Gospel. We are a credulous people, and the pharmacists should know it. I do not know to what extent the Pharmacopeia is fortified by law, but there is one way out—that is, the American Medical Association should make its own Pharmacopeia and make a Pharmacopeia to suit itself. If physicians want the aid of the chemist or druggist, let them secure it, but there should be no mixed commission in which there may be influences. Among the better part of the medical profession there is a sufficient number of men to select from. There is a feeling that the commission is often misguided by those who have vast pecuniary interests. I say that here because I owe it to the profession of which I have been a member for more than fifty years. I love my profession the more I have any dealings with it. Now, I want that profession to be clean, but I want it to be made clean by having clean things to deal with. The Pharmacopeia as it stands to-day is not clean. If it is possible I shall look the matter up personally. I am in favor of the American Medical Association making for its own use its own Pharmacopeia and being guided by that. I have been talking Pharmacopeia to classes of medical students, at least once a year, since 1860. I have been warning them against prescriptions not their own. Medical students have always been poorly informed about prescription writing. This very day they are not taught prescription writing. That is why they fall into the hands of manufacturers' agents. The agents not only teach them how to use their products, but make sure of it. Never have I spoken of the Pharmacopeia without eliciting roars of applause. These very boys who furnished the applause have then been guided by the agents of the manufacturers and they don't know what to do with the Pharmacopeia and don't keep one on their shelves. It is the same old story again, and if the American Medical Association wants to do a very good thing it is to be a little more independent of outside powers.

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[1] Proc. Am. Pharm. Assn., 1908, pp. 489-491.

Prof. H. P. Hynson, Baltimore: I want to try to put the American Pharmaceutical Association in its proper position of a loyal servant to the medical profession. There are generals and other officers—we do not claim to be generals, we are good soldiers and obey orders given us by the medical profession. The very moment the members of the medical profession tell us what they wish to go into the National Formulary and what they wish us to leave out, both will be done. We want the assistance of the American Medical Association as represented by this body and, with that, we then will be able to act as good and faithful soldiers.

Dr. A. Jacobi: I am glad to hear that. There are chemists in the American Pharmaceutical Association and in its council for the Pharmacopeia, and they should not tolerate prescriptions which contain incompatibles. If they find a prescription with incompatibles they should throw it out.

Dr. C. S. N. Hallberg, Chicago: I would like to correct the impression that has been given out concerning the National Formulary. There is not a single incompatible preparation in the National Formulary or the Pharmacopeia. There were a few which we have endeavored to correct, and it is possible through our work for the physician to prescribe pepsin and bismuth in the form of an elixir without being pharmaceutically incompatible. There may be some preparations that are therapeutically incompatible. We do not stand sponsors for such preparations. At the very last moment the chairman of the subsection on therapeutics said we must put in cataplasma kaolini because it was such a valuable therapeutic adjuvant in the treatment of pneumonia. How can pharmacists be blamed if the members of the medical profession do not prescribe chloral or bromid of potassium combined? Is that any reason why we should throw out the mixture, which is used vastly more than any preparation of the single articles? It is up to the physicians.

Dr. A. Jacobi, New York City: I was led by Prof. Hynson to believe that there were incompatibilities of pharmacists' own making in the National Formulary, and that is what I spoke against. So we all, I hope, agree and there will be no fault to find in the next edition. The Formulary must not immortalize or realize the mistakes of the prescribing doctors, and if the Formulary will be one-third as long as it is now I think it will be good for all parties, for the druggist as well as the physicians.

Prof. J. P. Remington, Philadelphia: The various articles in the Pharmacopeia are there because they were voted on by physicians. What goes into the Pharmacopeia, or what is taken out of it, is altogether in the hands of the physicians of the committee, the general committee ratifying their work. Besides that, I think that all the physicians are members of the American Medical Association, so that so far as the general committee is concerned, while they vote on all the questions which are brought forward, the whole matter of the introduction was left in the hands of the medical members, and, besides that, I don't think there was a single member of the Committee on Revision who voted against the introduction of acetanilid, and I don't think that the medical profession would have been satisfied with the Pharmacopeia if it had omitted acetanilid.

Dr. Henry Beates, Philadelphia: It seems to me that the general use of formulas is exponent of the degree of ignorance of the materia medica on the part of the general medical profession. I cannot understand how any physician can treat two children of the same age, suffering with, for illustration, acute laryngitis, with the one formula, and administer to those children, respectively, the same dose, and consider himself, in a broad sense, to be a qualified practitioner. I am one of those who believe in discarding all formulas that are peddled as therapeutic agents. The only formulas I use are those which are for rendering medicines palatable, and in no sense as medicines. The fundamental principles underlying the consideration of this entire subject belong to the science and art of pedagogy. As an examiner for medical licensure for fifteen years, the statement is warranted that, of the annual crop in Pennsylvania of about 500 "doctors," less than 4 per cent. are capable of correctly writing a prescription. When it is remembered that materia medica is commonly taught during the first year of the medical curriculum, at a time when the student knows practically nothing of anatomy, physiology and chemistry; having learned nothing whatever of disease, is it not absurd to expect from these undeveloped minds, memorizing and the comprehension of materia medica? Associate with this fact the common practice of examining such a class in materia medica at the end of the first year, and that for the remaining years of the curriculum practically nothing is taught of materia medica! If, in the medical curriculum, materia medica occupied a place by which only those students who are properly prepared to study it, would be taught, that is, during the third and fourth years, much of the evil we are discussing to-day would, undoubtedly, be eradicated. Thus it is that graduates and licentiates, incapable of writing a prescription correctly, are the easy victims of the commercial arguments of the wily agents of commercial, in a bad sense, medicine. Thus it is that "formulas" of claimed therapeutic value are administered to any and every one, in the same dose, and for the same disease, no matter what the conditions may be, and the art of applying means to an end, utterly lost, and "medicine" relatively valueless.

Dr. F. E. Stewart, Philadelphia: The so-called proprietary medicine houses assume that the commercial introducers of new materia medica products, or of mechanical mixtures of old, well-known drugs under fanciful names, possess the natural right to the exclusive sale of these articles on account of being the first introducers, and, therefore, any person offering the same article for sale is guilty of fraudulent substitution. The following story told me by the late Mr. Thompson, a well-known pharmacist of Washington, D. C., explains the point: A representative of a "patent-medicine" concern called at his store and asked him to sign a paper promising never to substitute any other brand of sarsaparilla for that manufactured by his firm. Mr. Thompson replied: "The proprietary medicine houses claim that the original introducers are the sole proprietors of the products introduced by them. Is your house the first one to make sarsaparilla?" The representative answered, "No." "Well," said Mr. Thompson, "according to your own definition, you are guilty of fraudulent substitution yourselves because you are not the original introducers. Therefore you get out of my store, and never come here again asking me to sign a paper that you as representative of your house would not sign."

This suggests the question, "What is meant by 'natural right.'" Has an inventor or discoverer a natural right to prevent others copying his invention or discovery? Has the author of a book a natural right to prevent others copying his book? The question of natural right to writings and discoveries has been settled negatively by the courts, both in Great Britain and this country. When it exists at all, the right to prevent others copying inventions and writings is a creature of statute and of grant, subject to the provisions included in the statutes and grants. Such grants are known as copyrights and patents, and the statutes are known as copyright laws and patent laws.

Closely related to this subject is the assumption of the proprietary medicine manufacturers that the names of their products are private property, because they are invented or coined words. Coined or invented names are not proprietary by natural right, nor can they be copyrighted by law, as may readily be ascertained by referring to the Librarian of Congress, who has issued an official circular stating that coined words cannot be copyrighted. Coined names may be registered in the Patent Office as trade-marks, but no grant to their exclusive use is obtained thereby. Any person has a perfect right so to mark his goods that the origin of a brand may be readily known to purchasers. This is a natural right and he is protected by common law. A manufacturer may use as his commercial signature or trade-mark any distinctive mark, device or word, but in so doing he does not acquire the right to prevent others using the same symbols for marking other classes of goods. But it is perfectly apparent that a name cannot at the same time perform the functions of both title and trade-mark; for the function of the title is to point out the class of goods, while the function of the trade-mark is to point out the manufacturer. Every article must have a name and identity of its own before it becomes possible to use any word as the name of a particular brand.

# LACHRYMAL GLAND TUMORS

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A knowledge of the anatomy of the lachrymal gland is of prime importance to one who undertakes an operation for its removal, and therefore I offer a brief description of it.

## ANATOMY OF THE LACHRYMAL GLAND

In character it belongs to the acinous gland and occupies a place in the upper outer and anterior portion of the orbital cavity, being lodged in what is termed the lachrymal fossa on the under surface of the orbital plate of the frontal bone. While in close apposition with the overlying periosteal covering at this point, it is, nevertheless, but loosely connected therewith. Through the expanded insertion of the elevator muscle of the upper lid the gland is divided into a superior, more compact portion of grayish-red color, and an inferior or accessory portion of looser texture and in close relation with the superior conjunctival fornix. Investing the gland is a fibrous capsule, which has numerous connections with the lateral anchoring fibrous orbital supports, extending between the superior rectus muscle and the outer orbital wall, and with the supraorbital periosteum through the suspensory glandular ligament. The inferior surface of the gland is concave and inclined downward and inward, being so placed as to give a transverse measurement, according to Schwalbe,[1] of from 20 to 25 mm., while the antero-posterior measurement is but 12 to 14 mm.

## REPORT OF CASE

The following case is not only interesting but serves to bring out the symptomatology, diagnosis and treatment of tumor formations involving this gland:

*History.*—M. J. K., a well-developed, robust, married man, aged 45, a river pilot by occupation, consulted me Oct. 23, 1907, because of a growing hardness over the right eyeball. He first became aware of it three to four years before the consultation, since which time it had slowly increased in size, causing forward displacement of the eyeball with drooping of the upper lid. It had never been painful, but the eye when exposed to the inclement weather reddened and secreted tears.

*Examination.*—The cutaneous blood vessels were not unduly prominent, but at a glance marked ptosis was seen with forward, downward and inward displacement of the eye. Double vision did not exist and the patient denied specific infection. The left gland was not involved, neither had the patient glandular enlargement elsewhere in the body. On palpation a nonpainful enlargement of the right lachrymal gland was detected through the drooping lid; it was of firm texture, smooth of surface and in size that of a small English walnut. The growth was semi-movable, without intimate connection with the overlying bony wall, and when strongly pressed on, partially receded within the orbit, with corresponding increase in the forward and downward displacement of the eye. The patient did not complain of loss of vision. With the left eye he saw 15/xv and with the right eye 15/lx improved to 15/xx with — 1.00 cy., ax. 60. The fundus was without detectable lesion.

A diagnosis of probable adenoma of the lachrymal gland was made, and the patient was given iodid of potash three times daily, with the suggestion that he make arrangements to lay off from work and enter a hospital to undergo an operation for removal of the growth.

*Operation.*—On Feb. 14, 1908, the patient was operated on at the U. S. Marine Hospital under ether anesthesia, Dr. J. B. Stoner, surgeon in charge at this port, kindly assisting. After the eyebrow had been shaved and the field of operation sterilized with sublimate solution, an incision was begun over the external angular process and carried along the bony orbital rim inward to about one-third of the length of the upper lid. The convexity of the cut was directed upward and included the skin, subcutaneous tissue and orbicularis palpebrarum muscle. With retractors the lips of the wound were held apart, and next the tarso-orbital fascia carefully divided on a line corresponding with the skin incision and reflected downward. The growth appeared in the wound after this incision and was firmly grasped, with fixation forceps and dissected out with blunt, curved scissors. The adhesions were most extensive along the mesial and posterior inner part of the gland. After the hemorrhage had been controlled by gauze packing the wound was closed by four interrupted sutures and a sterile dressing applied.

*Postoperative History.*—Double vision was not encountered after the operation, but there followed some suppuration which after a time subsided with permanent closure of the wound, and up to the date of writing there has been no recurrence of the growth. The result of the operation has been marked recession of the eyeball and the ptosis, with retention of vision as before the time of operation. The growth was hardened in a solution of formaldehyd and a portion sent to Dr. H. R. Alburger, pathologist in the Indiana University, to whose kindness I am indebted for the following microscopic finding:

*Microscopic Examination.*—Section consists of a glandular mass made up of a stroma of connective tissue which is largely hyaline in character. Held in the meshes of this are found a number of gland tubules lined with columnar epithelium. In the main these tubules are regular and lined with a single layer of epithelium, but in several areas there is a lack of regularity of the tubes and the epithelium is in several layers and even growing in irregular masses without any distinct limiting membrane and with cells which show mitosis. Some of the more typical tubes contain a mass of structureless material, resembling colloid. Others contain mucus.

*Diagnosis.*—Adenoma of lachrymal gland undergoing malignant change.

## CLASSIFICATION OF TUMORS OF THE LACHRYMAL GLAND

Tumors of the lachrymal gland may be primary in nature or secondary. They may be benign or malignant, and either of solid or cystic character, and may involve one or both glands at the same time. Of the reported cases by far the greatest number have been benign in nature, or at least their removal has not been followed by recurrence. Among the reported malignant growths we find the various sarcomas, chloroma and the different carcinomas. The pathologic histology of tumors involving these glands has led to considerable controversy and widely different conclusions. According to O. Becker and Rudolph Schirmer,[2] most of these tumors are properly classed as adenomas or adenoid formations, while Koester[3] and others classify them as cylindromas. "Endothelioma" is a better designation, since if by "cylindroma" is not meant a tumor springing from the endothelial lining of the lymph spaces there must remain doubt as to just what writers do imply by the designation. I can see no reason for believing that new formations in this gland prove an exception to those found in other acinous glands, such as the pancreas and salivary glands, to which, according to Schenk,[4] the lachrymal gland is histologically closely allied. I would in part reconcile the seeming contradictory views held by these investigators by the fact that tumors of the lachrymal gland, comparatively speaking, are of rare occurrence, and no one observer has met with a sufficient number of cases to establish therefrom a generally accepted basis of classification. A review of the histology of the benign tumors placed on record discloses that they have been of mixed character for the greater part, and this corresponds to what Weichselbaum[5] states concerning those found in the salivary glands. It is my belief that as a rule all the tissues entering into the formation of the lachrymal gland are involved in the growths occurring therein, with the preponderance of overgrowth in those elements of mesoblastic origin, and hence I would designate them according to the prevailing type of tissue, fibroma, adenoma, adenofibroma, or adenoendotheliofibroma. The designation "endothelioma" may properly be combined as in the foregoing when columns of endothelial cells are seen forming a network and retaining in places a lumen. When this arrangement is lacking the tumor, if histologically of endotheliomatous cell formation, is to be classed as sarcoma. In both the benign and malignant growths one may find, in addition to the epithelial and interacinous connective tissue proliferation, cartilage, bone, hyaline and colloid degeneration.

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[1] Schwalbe: Lehrbuch der Anatomie des Auges.

### ETIOLOGY

The present knowledge of the etiology of lachrymal gland tumors leaves much to be desired. Acute swelling of one or both glands may be the result of a general infection, such as mumps and erysipelas, or some local infection in some part of the eyeball, or result from traumatism. Chronic swelling of one or both glands may precede or accompany enlargement of the salivary glands and result from tuberculous or syphilitic infection.

Retention cysts, dacryops, arise after inflammatory occlusion of one or more of the excretory ducts, while cystic degeneration is met with in various morbid growths. Dermoid cysts spring from embryonic tissue incorporated in the gland, the same as in other parts of the body, while hydatid cysts are due to echinococci.

### DIAGNOSIS AND PROGNOSIS

Save in the purely retention cyst, which is recognized by palpation as a soft fluctuating and perhaps lobulated formation, disclosing on eversion of the upper lid a bluish translucent sac, diagnosis is largely conjectural. Resolution under specific treatment is presumptive evidence that we are dealing with gummatous tumor, this especially if both glands were affected. The boundary between simple glandular hypertrophy and adenoma is not a sharp one. Tumors of slow growth, smooth contour and firm consistence are apt to be benign in nature and hence offer a favorable prognosis.

### OPERATION

In case of retention cyst, excision of part of the anterior wall through the fornix conjunctiva with gauze drain, should be done rather than an attempt at extirpation of the sac which, because of the thinness of its wall, may be difficult or impossible of accomplishment. For other tumors I perfer extirpation according to the method previously outlined in the relation of my patient, or the outer canthus may be divided and the growth removed through an opening in the fornix conjunctiva.

### CONCLUSIONS

All kinds of tumor formations, both of malignant and benign nature, are encountered in the lachrymal gland. In the main the growths are benign in character and of mixed type due to involvement of all the gland tissue, and, according to the preponderance of tissue overgrowth, histologically we may designate them as fibroma, adenofibroma, fibroadenoma or adenoendotheliofibroma. After thorough operative removal we are justified in the majority of cases—this especially where the tumor has been of slow growth—in giving a favorable prognosis recurrences being the exception.

*501 Upper First Street.*

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# SCOPOLAMIN AND MORPHIN IN NARCOSIS AND IN CHILDBIRTH

## A REPORT TO THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION

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*(Concluded from page 451)*

### *OBSTETRICAL USES*

The discussion of the advantages and disadvantages of scopolamin and morphin in surgical practice indicates some of its uses and limitations in obstetrics, but the conditions are different in many essentials, and those relating to childbirth will be discussed independently. The physiologic actions of scopolamin and of morphin must be borne in mind here not less than in the surgical use of these agents, and there are certain points on which stress must be placed, with reference to this application of the two drugs, hence the pharmacology will be again considered briefly.

### PHARMACOLOGY

Scopolamin passes across the placental circulation and appears in the first urine of the new-born child, and it is excreted into the colostrum for a variable period after its administration to the parturient woman, according to the experiments of Holzbach. Kehrer found that scopolamin caused excitation of the perfused uterus, but

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2. Schirmer: Graefe-Samisch Handbuch der Gesamten Augenheilkunde, vii.
3. Koester: Virchow's Arch. f. Path. Anat., 1867, xl, 468.
4. Schenk: Grundriss der normalen Histologie des Menschen.
5. Weichselbaum: Grundriss der pathologischen Histologie.

it is improbable that this plays an important rôle in the dose in which scopolamin is used.

Steffens states that there is normally a lowered perception in labor, and simultaneously there is central motor irritability, which explains the increased susceptibility of the parturient woman for scopolamin. Steffens also states, as the result of experiments on himself, that the perception is not a reliable guide for the further need of scopolamin.

Scopolamin is said to be excreted fairly rapidly in the urine, but the prolonged sleep which occasionally follows its use would seem to indicate that at least a part may remain for some time in the central nervous system.

The extraordinary toxicity of morphin for the new-born child gives added importance to the questions of the behavior and of the fate of that alkaloid in the organism. Unfortunately, we are much in the dark regarding this behavior. Marquis thinks that a part of the morphin at least is destroyed by animal oxidases, and Cloetta believes that certain cells take part in its destruction, while Faust maintains that the normal animal excretes morphin unchanged. Only traces of morphin are found in the urine, the greater part being excreted into the gastrointestinal canal. It is probable that a portion of that which passes into the stomach is reabsorbed into the circulation until finally excreted by way of the intestine. Still more important, so far as the infant is concerned, is the fact that traces of morphin are excreted into the colostrum or milk, and these traces are sufficient to cause intoxication in the new-born.

Von Steinbüchel (1902) was the first to suggest the use of scopolamin and morphin in childbirth. He describes the method in his second paper, in which he gives the details of 20 cases of labor in which he used initial doses of 0.3 milligram (1/200 gr.) scopolamin and 1 centigram (1/6 gr.) of morphin, occasionally 0.4 milligram (1/150 gr.) scopolamin. In 3 cases there was copious hemorrhage after the child was delivered. In the earlier cases von Steinbüchel gave a second dose of scopolamin if required, not less than two hours after the first, and only one-half as large; in some of the later cases he gave the same amount in the second dose as in the first. His caution in the use of scopolamin in chilbirth contrasts favorably with the boldness with which it was used in surgery at the same period. It is by no means certain that others have succeeded in improving on von Steinbüchel's results, and his paper should be read by those who employ scopolamin and morphin in childbirth. He calls attention to the fact that the study of the problems concerned in its use cannot be pursued satisfactorily in general practice.

Gauss is given the credit usually for developing the technic of the *"Dämmerschlaf,"* or "twilight sleep," a condition which has been described as that in which perception is retained to a greater or less degree, while the memory is impaired or lost.

It is not easy to determine just what is meant by the term, however, for, after having spent six weeks in Krönig's clinic in the effort to acquire the technic, Mansfeld calls attention to the prevalent erroneous impression that the method is intended to abolish the suffering of labor, whereas it is intended only to prevent memory of the event. But six months later we find the statement made by Krönig himself that the "twilight sleep" renders childbirth almost, or entirely, painless. The title of Krönig's paper is *"Schmerzlose Entbindungen in Dämmerschlaf"* ("Painless Labor in Twilight Sleep"). The question seems to involve the problem whether forgotten pain and painlessness are synonymous.

Gauss' technic is described in THE JOURNAL, Oct. 12, 1907, p. 1299, but Mansfeld stated that despite the four publications of Gauss' which had appeared (1908), there were many points which had not been made clear in the literature. Gauss maintains that success depends on a close adherence to the technic, but several observers who had studied this technic under Gauss report that they were unable to obtain such favorable results as he reports. This question must be left to obstetricians, but the dose and its effects require consideration.

Gauss states that rarely (1 in 1,000 cases) 0.3 milligram (1/200 gr.) of scopolamin and 1 centigram (1/6 gr.) of morphin will suffice for a case of childbirth, [illegible] milligrams (1/50 gr.) of scopolamin [illegible] (⅓ gr.) of morphin will be required. The latter dose may be borne by the woman in suitable cases without ill effects, but it is obvious from what has been said that it requires extreme care and discernment to select the cases in which such doses can be considered safe. Gauss' report appears to indicate that he has acquired the requisite skill and discernment to enable him to use the method with greater safety than other methods, but it must be remembered that we have no statistics with which to compare his records, since it is obvious that he must select the cases which are suitable. And, furthermore, as Krönig has said in answer to the complaint that the technic is too complex, that it is admittedly complex, but that it is the result of long years of study of the question.

There is practically a unanimity of opinion on this essential point, that the successful use of scopolamin and morphin in childbirth requires the utmost attention to details. It is confessedly an extremely difficult and tedious matter to secure the necessary action without overstepping the bounds of safety. The truth of this is obvious when one remembers what has been said repeatedly of the variable and uncertain action of scopolamin and the mixture with morphin. The successful use of these agents requires not only a great deal of experience and judgment in question of obstetrics, but also in the use of these particular agents in obstetrics.

Hocheisen (1906) reported on the use of scopolamin and morphin in 100 cases of labor in which the death of one child was attributed to these agents. This and numerous other disadvantages, including atonic hemorrhage and prolongation of labor, which Hocheisen urged against the method, called forth a reply from Gauss, who attributed the mishaps to a want of correct technic, but Hocheisen's paper created a profound impression, and unquestionably deterred many from using the method.

### ADVANTAGES

Among the advantages claimed by the supporters of the use of scopolamin and morphin in childbirth are:

1. Memory of the event is lost.
2. Pain is lessened or abolished.
3. There is less hemorrhage.

1. *Memory Abolished.*—The testimony of the large majority of observers leaves little doubt that the woman rarely retains any memory of the labor or its suffering, and it is said that she often expresses surprise when she is told that it is over. Krönig maintains that the memory of labor is frequently the beginning of a psychosis that may be very persistent, the modern conditions of life being such that childbearing has ceased largely to be a physiologic process, and the loss of the memory of labor prevents such psychoses. If Krönig's contention is correct, the necessity for care in the use of scopolamin

followed by recurrence. Among the reported malignant growths we find the various sarcomas, chloroma and the different carcinomas. The pathologic histology of tumors involving these glands has led to considerable controversy and widely different conclusions. According to O. Becker and Rudolph Schirmer,[2] most of these tumors are properly classed as adenomas or adenoid formations, while Koester[3] and others classify them as cylindromas. "Endothelioma" is a better designation, since if by "cylindroma" is not meant a tumor springing from the endothelial lining of the lymph spaces there must remain doubt as to just what writers do imply by the designation. I can see no reason for believing that new formations in this gland prove an exception to those found in other acinous glands, such as the pancreas and salivary glands, to which, according to Schenk,[4] the lachrymal gland is histologically closely allied. I would in part reconcile the seeming contradictory views held by these investigators by the fact that tumors of the lachrymal gland, comparatively speaking, are of rare occurrence, and no one observer has met with a sufficient number of cases to establish therefrom a generally accepted basis of classification. A review of the histology of the benign tumors placed on record discloses that they have been of mixed character for the greater part, and this corresponds to what Weichselbaum[5] states concerning those found in the salivary glands. It is my belief that as a rule all the tissues entering into the formation of the lachrymal gland are involved in the growths occurring therein, with the preponderance of overgrowth in those elements of mesoblastic origin, and hence I would designate them according to the prevailing type of tissue, fibroma, adenoma, adenofibroma, or adenoendotheliofibroma. The designation "endothelioma" may properly be combined as in the foregoing when columns of endothelial cells are seen forming a network and retaining in places a lumen. When this arrangement is lacking the tumor, if histologically of endotheliomatous cell formation, is to be classed as sarcoma. In both the benign and malignant growths one may find, in addition to the epithelial and interacinous connective tissue proliferation, cartilage, bone, hyaline and colloid degeneration.

### ETIOLOGY

The present knowledge of the etiology of lachrymal gland tumors leaves much to be desired. Acute swelling of one or both glands may be the result of a general infection, such as mumps and erysipelas, or some local infection in some part of the eyeball, or result from traumatism. Chronic swelling of one or both glands may precede or accompany enlargement of the salivary glands and result from tuberculous or syphilitic infection.

Retention cysts, dacryops, arise after inflammatory occlusion of one or more of the excretory ducts, while cystic degeneration is met with in various morbid growths. Dermoid cysts spring from embryonic tissue incorporated in the gland, the same as in other parts of the body, while hydatid cysts are due to echinococci.

### DIAGNOSIS AND PROGNOSIS

Save in the purely retention cyst, which is recognized by palpation as a soft fluctuating and perhaps lobulated formation, disclosing on eversion of the upper lid a bluish translucent sac, diagnosis is largely conjectural. Resolution under specific treatment is presumptive evidence that we are dealing with gummatous tumor, this especially if both glands were affected. The boundary between simple glandular hypertrophy and adenoma is not a sharp one. Tumors of slow growth, smooth contour and firm consistence are apt to be benign in nature and hence offer a favorable prognosis.

### OPERATION

In case of retention cyst, excision of part of the anterior wall through the fornix conjunctiva with gauze drain, should be done rather than an attempt at extirpation of the sac which, because of the thinness of its wall, may be difficult or impossible of accomplishment. For other tumors I perfer extirpation according to the method previously outlined in the relation of my patient, or the outer canthus may be divided and the growth removed through an opening in the fornix conjunctiva.

### CONCLUSIONS

All kinds of tumor formations, both of malignant and benign nature, are encountered in the lachrymal gland. In the main the growths are benign in character and of mixed type due to involvement of all the gland
tissue, and, according to the preponderance of tiss
overgrowth, histologically we may designate them
fibroma, adenofibroma, fibroadenoma or adenoendotheli
fibroma. After thorough operative removal we are ju
tified in the majority of cases—this especially wh
the tumor has been of slow growth—in giving a fav
able prognosis recurrences being the exception.

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# SCOPOLAMIN AND MORPHIN IN NARCOS
# AND IN CHILDBIRTH

## A REPORT TO THE COUNCIL ON PHARMACY AND CHEM
## TRY OF THE AMERICAN MEDICAL ASSOCIATION

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Professor of Pharmacology, Cornell University Medical Coll
Member of Council on Pharmacy and Chemistry
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*(Concluded from page 451)*

## OBSTETRICAL USES

The discussion of the advantages and disadvanta
of scopolamin and morphin in surgical practice indic
some of its uses and limitations in obstetrics, but
conditions are different in many essentials, and th
relating to childbirth will be discussed independent
The physiologic actions of scopolamin and of morph
must be borne in mind here not less than in the surgic
use of these agents, and there are certain points
which stress must be placed, with reference to this appl
cation of the two drugs, hence the pharmacology wi
be again considered briefly.

### PHARMACOLOGY

Scopolamin passes across the placental circulation a
appears in the first urine of the new-born child, and
is excreted into the colostrum for a variable period
its administration to the parturient woman
to the experiments of Holzbach. Kehrer
scopolamin caused excitation of the perfus

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2. Schirmer: Graefe-Samisch Handbuch der Gesamten Augenheilkunde, vii.
3. Koester: Virchow's Arch. f. Path. Anat., 1867, xl, 468.
4. Schenk: Grundriss der normalen Histologie des Menschen.
5. Weichselbaum: Grundriss der pathologischen Histologie.

it is improbable that this plays an important rôle in the dose in which scopolamin is used.

Steffens states that there is normally a lowered perception in labor, and simultaneously there is central motor irritability, which explains the increased susceptibility of the parturient woman for scopolamin. Steffens also states, as the result of experiments on himself, that the perception is not a reliable guide for the further need of scopolamin.

Scopolamin is said to be excreted fairly rapidly in the urine, but the prolonged sleep which occasionally follows its use would seem to indicate that at least a part may remain for some time in the central nervous system.

The extraordinary toxicity of morphin for the new-born child gives added importance to the questions of the behavior and of the fate of that alkaloid in the organism. Unfortunately, we are much in the dark regarding this behavior. Marquis thinks that a part of the morphin at least is destroyed by animal oxidases, and Cloetta believes that certain cells take part in its destruction, while Faust maintains that the normal animal excretes morphin unchanged. Only traces of morphin are found in the urine, the greater part being excreted into the gastrointestinal canal. It is probable that a portion of that which passes into the stomach is reabsorbed into the circulation until finally excreted by way of the intestine. Still more important, so far as the infant is concerned, is the fact that traces of morphin are excreted into the colostrum or milk, and these traces are sufficient to cause intoxication in the new-born.

Von Steinbüchel (1902) was the first to suggest the use of scopolamin and morphin in childbirth. He describes the method in his second paper, in which he gives the details of 20 cases of labor in which he used initial doses of 0.3 milligram (1/200 gr.) scopolamin and 1 centigram (1/6 gr.) of morphin, occasionally 0.4 milligram (1/150 gr.) scopolamin. In 3 cases there was copious hemorrhage after the child was delivered. In the earlier cases von Steinbüchel gave a second dose of scopolamin if required, not less than two hours after the first, and only one-half as large; in some of the later cases he gave the same amount in the second dose as in the first. His caution in the use of scopolamin in chilbirth contrasts favorably with the boldness with which it was used in surgery at the same period. It is by no means certain that others have succeeded in improving on von Steinbüchel's results, and his paper should be read by those who employ scopolamin and morphin in childbirth. He calls attention to the fact that the study of the problems concerned in its use cannot be pursued satisfactorily in general practice.

Gauss is given the credit usually for developing the technic of the *"Dämmerschlaf,"* or "twilight sleep," a condition which has been described as that in which perception is retained to a *greater or less* degree, while the memory is impaired or lost.

It is not easy to determine just what is meant by the term, however, for, after having spent six weeks in Krönig's clinic in the effort to acquire the technic, Mansfeld calls attention to the prevalent erroneous impression that the method is intended to abolish the suffering of labor, whereas it is intended only to prevent memory of the event. But six months later we find the statement made by Krönig himself that the "twilight sleep" renders childbirth almost, or entirely, painless. The title of Krönig's paper is *"Schmerzlose Entbindungen in Dämmerschlaf"* ("Painless Labor in Twilight Sleep"). The question seems to involve the problem whether forgotten pain and painlessness are synonymous.

Gauss' technic is described in The Journal, Oct. 12, 1907, p. 1299, but Mansfeld stated that despite the four publications of Gauss' which had appeared (1908), there were many points which had not been made clear in the literature. Gauss maintains that success depends on a close adherence to the technic, but several observers who had studied this technic under Gauss report that they were unable to obtain such favorable results as he reports. This question must be left to obstetricians, but the dose and its effects require consideration.

Gauss states that rarely (1 in 1,000 cases) 0.3 milligram (1/200 gr.) of scopolamin and 1 centigram (1/6 gr.) of morphin will suffice for a case of childbirth, occasionally 1.2 milligrams (1/50 gr.) of scopolamin and 2 centigrams (⅓ gr.) of morphin will be required.

The latter dose may be borne by the woman in suitable cases without ill effects, but it is obvious from what has been said that it requires extreme care and discernment to select the cases in which such doses can be considered safe. Gauss' report appears to indicate that he has acquired the requisite skill and discernment to enable him to use the method with greater safety than other methods, but it must be remembered that we have no statistics with which to compare his records, since it is obvious that he must select the cases which are suitable. And, furthermore, as Krönig has said in answer to the complaint that the technic is too complex, that it is admittedly complex, but that it is the result of long years of study of the question.

There is practically a unanimity of opinion on this essential point, that the successful use of scopolamin and morphin in childbirth requires the utmost attention to details. It is confessedly an extremely difficult and tedious matter to secure the necessary action without overstepping the bounds of safety. The truth of this is obvious when one remembers what has been said repeatedly of the variable and uncertain action of scopolamin and the mixture with morphin. The successful use of these agents requires not only a great deal of experience and judgment in question of obstetrics, but also in the use of these particular agents in obstetrics.

Hocheisen (1906) reported on the use of scopolamin and morphin in 100 cases of labor in which the death of one child was attributed to these agents. This and numerous other disadvantages, including atonic hemorrhage and prolongation of labor, which Hocheisen urged against the method, called forth a reply from Gauss, who attributed the mishaps to a want of correct technic, but Hocheisen's paper created a profound impression, and unquestionably deterred *many* from using the method.

### ADVANTAGES

Among the advantages claimed by the supporters of the use of scopolamin and morphin in childbirth are:

1. Memory of the event is lost.
2. Pain is lessened or abolished.
3. There is less hemorrhage.

1. *Memory Abolished.*—The testimony of the large majority of observers leaves little doubt that the woman rarely retains any memory of the labor or its suffering, and it is said that she often expresses surprise when she is told that it is over. Krönig maintains that the memory of labor is frequently the beginning of a psychosis that may be very persistent, the modern conditions of life being such that childbearing has ceased largely to be a physiologic process, and the loss of the memory of labor prevents such psychoses. If Krönig's contention is correct, the necessity for care in the use of scopolamin

## A TENDER PELVIC MASS WITH OTHER SYMPTOMS OF TUBAL PREGNANCY

### GONORRHEAL SALPINGITIS

With no other disease have I experienced so much difficulty in differentiation from early tubal pregnancy as with salpingitis of gonorrheal origin. Typical cases of salpingitis are, of course, easily distinguished from typical cases of tubal pregnancy. The difficulty lies in the fact that either may be atypical, and as they become atypical they may approach each other until their manifestations are practically alike—that is, gonorrheal salpingitis (atypical) may produce the symptoms and signs of tubal pregnancy (slightly atypical). Such cases are not very frequent, but they are encountered occasionally in the examination of a large number of cases of supposed extrauterine pregnancy, and when encountered they prove most deceptive and misleading. In each of the following cases (some of which were mentioned in a previous article[1]) the deceptive combination of symptoms was sufficiently complete to cause a mistake in diagnosis.

Case 1.—*Old Gonorrheal Infection.*—Patient, aged 32, referred to me by Dr. J. D. Beatty, of Troy, Mo. Last normal menstruation August 10. In September went over time ten days. Felt as well as usual and suppposed herself pregnant. No stomach disturbance or breast pains. About September 20 had a scanty flow for two days. She felt well and there was no further bloody discharge for two weeks, when it started again. A day later she was seized with severe pains extending all through the lower abdomen. No shock, just pain, at times cramp-like. This pain continued off and on for a week. Patient was confined to bed and had to be given morphin. A physician was called and made a diagnosis of abortion. No membranes passed and there was only one small clot. Patient was then curetted but not much was obtained—apparently only some thickened endometrium. No fetus or membranes or shreds of tissue were seen at any time. Patient felt better after the curettement, but still continued sick, confined to bed with abdominal pain and tenderness. Temperature 99 to 100. Twelve days later, as there was no material improvement, the uterus was curetted again, but without result. The trouble continuing, Dr. Beatty was called in consultation. The abdominal pains and tenderness continued and the temperature then (after the second curettement) ranged from 100 to 101. Six days after the second curettement the patient was brought to St. Louis and placed under my care.

*Examination.*—This showed the uterus retrodisplaced and fixed, and blended with a tender mass of adnexal origin extending into both sides of the pelvis. The average temperature was 100; pulse, 98; respiration, 20. The lowest temperature was 99.2 and the highest 100.6.

*Diagnosis.*—There was evidently serious adnexal trouble of apparently recent origin, and any of the following diagnoses was possible: (1) salpingitis following miscarriage, (2) an acute exacerbation of a chronic salpingitis, and (3) tubal pregnancy with repeated slight hemorrhages. Against the first were the low temperature (much lower than consistent with an acute infection of sufficient severity to cause the symptoms) and the absence of evidences of miscarriage. Against the second, were the low temperature with acute symptoms, no history of preceding severe symptoms indicating old suppuration in the pelvis (though there had been mild pelvic distress for some years) and the association of the trouble with missed menstruation, followed by sudden onset of pain and the appearance of an irregular bloody vaginal discharge. If due to an old inflammatory trouble one would expect the menstrual flow to be increased instead of missed, and the pain and other symptoms to be of rather gradual onset and increasing in severity as fluctuation appeared in the mass. In favor of the third (tubal pregnancy) were missed menstruation followed by sudden onset of pain, irregular bloody discharge, absence of positive evidence of a miscarriage, and the presence of fluctuation in the mass, associated with low temperature (much lower than was consistent with a pocket of pus). It seemed a fairly clear case of tubal pregnancy—one of the class frequently met, in which there is no great loss of blood at one time, but repeated slight hemorrhages with a gradually increasing mass. Accordingly that diagnosis was made.

*Operation.*—On opening the abdomen no tubal pregnancy was found. The trouble was chronic adnexal inflammation—there being a tubo-ovarian abscess on the left side, which gave the fluctuation, and chronic salpingitis on the right side, the remaining part of the mass being formed by adhesions and exudate. The damaged adnexa and the chronically inflamed appendix were removed and the uterus fastened forward.

The patient made a prompt recovery with complete relief.

Careful bacteriologic investigation of the removed adnexa showed no bacteria of any kind. This excluded recent infection. The case was evidently one in which there was a gonorrheal infection long ago (there were confirmatory facts in the history), the development of pyosalpinx with only slight symptoms of a mild character, the death of the bacteria (which commonly takes places in gonorrheal pyosalpinx), and the persistence of sterile pus in a sac which acted as an irritating foreign body in the pelvis. No evidence of pregnancy was found. Why the menstruation was missed I can not say. In some other cases of gonorrheal salpingitis I have encountered this misleading symptom.

[The author reports three instructive cases bearing on this subject (Cases 2, 4, 5) from the Gynecological Department of Washington University Hospital, and mentions a case reported by Butler[2] (Case 6) and refers to the fact that other similar cases of *chronic gonorrheal pyosalpinx* very closely simulating tubal pregnancy have been reported. Because of lack of space, it has been necessary to omit details of cases here and at several other places in the article, but the omitted details are given in full in the Transactions and also in the author's reprints.—Ed.]

Case 3.—*Acute Double Salpingitis.*—Patient, aged 19, referred to me by Dr. George F. Chopin, of St. Louis. About two weeks after marriage she failed to come unwell properly. At the menstrual time there was a slight bloody discharge, but not a good menstrual flow. There was some soreness and pain in the pelvis. After this had continued a few days she was seized with sudden severe pain in the lower abdomen, accompanied by shock. With the weakness and faintness and pain she could hardly move, even to turn over in bed, for several hours. The severe pain gradually subsided but marked soreness remained, so much so that the patient was obliged to lie very quiet. A physician who was called examined the patient and said that she was having a miscarriage. A partial curettement was carried out, but only a small amount of blood was removed. No fetus, membranes or large clot was passed at any time. The patient and her husband then became uneasy at the apparent seriousness of the trouble and the day after the curettement called Dr. Chopin, who asked me to see the patient.

*Examination.*—The patient was confined to bed with pain in the lower abdomen and a bloody vaginal discharge. There was marked tenderness on abdominal and bimanual examination, and there was a boggy induration on each side of the uterus with marked tenderness. No membranes or shreds were found in the cervix or in the bloody discharge. The discharge was blood and mucus, without noticeable pus admixture. The trouble seemed to be around the uterus rather than in it. The temperature was low, fluctuating between 100 and 101. Here was a patient, apparently previously healthy, seized with a severe abdominal pain and decided shock, associated with imperfect menstruation, an irregular bloody discharge, a tender mass partially surrounding the uterus, and low temperature. I made a tentative diagnosis of tubal pregnancy with some internal hemorrhage, but not being entirely satisfied, I concluded to watch the case for a while.

Under mild sedatives and strict confinement to bed the patient became very comfortable. The temperature ran about

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[1] rossen, H. S.: Ectopic Gestation Symptoms in Gonorrheal Cases, read before the Missouri State Medical Associa- 0, 1909.

[2] Butler: Brooklyn Med. Jour., 1903, xvii, 140.

100. After a few days she felt so much better that, without my permission, she began to go to the washstand. On one of these trips across the room she was seized with pain and almost fainted before she could reach the bed. There was then more pain and pelvic soreness and an increase in the tender mass about the uterus. I then insisted on the patient's removal to the hospital, where she was kept under observation for five days longer. On admission the temperature was 101.2; pulse, 100; respiration, 24. There was considerable abdominal pain, requiring a sedative occasionally. The next day the temperature was 99 and for four days did not go above 99.6. In the meantime the patient felt comfortable, could sleep well, her appetite returned, and the pelvic soreness diminished. The bloody discharge continued. The fifth day, without apparent cause, the abdominal pain returned and became very severe. The pulse rose to 132; temperature, 100.6; respiration, 24. On examination the tender pelvic mass was found to be larger. The tentative diagnosis of tubal pregnancy seemed confirmed by the spontaneous recurrence of severe pain, the rapid pulse, and the continued enlargement of the pelvic mass with low temperature.

*Operation.*—When I opened the abdomen I found there was no extrauterine pregnancy, but instead an acute double salpingitis, with leakage of pus into the peritoneal cavity and the formation of extensive adhesions. The tubes were so badly damaged that I thought best to excise them. After establishing free drainage of the infected area, I explored the interior of the uterus, thinking that possibly there had been a miscarriage after all, with infection following it; but no evidence of pregnancy was found.

The patient recovered without particular incident.

Examination of the pus from the tubes showed gonococci in abundance and in pure cultures. The case was one of gonorrheal infection following marriage, the infection affecting the vagina but slightly and passing rapidly up into the uterus and tubes and out into the peritoneal cavity. A striking fact, and perhaps the most misleading one in this particular case, was the absence of the usual evidences of acute gonorrheal vaginitis (burning on urination, vaginal tenderness, and free purulent discharge). These were so slightly marked that there was no suggestion of the trouble being acute gonorrhea. The purulent character of the discharge was obscured by the blood in it. Had I examined the discharge microscopically, gonorrhea would at once have been evident.

### MISCARRIAGE WITH OTHER ABNORMALITY

CASE 7.—*Miscarriage and Ovarian Tumor.*—Reported by Brown.[3] A patient who had missed the menstruation for three weeks and had all the symptoms of pregnancy, was attacked with pains through the lower abdomen. A physician was called and found the patient confined to bed, with abdominal pain, partial suppression of urine, temperature of 102.5, and evidently severe inflammation from some cause.

*Examination.*—The uterus was found pushed back by a large mass in the right side of the pelvis. The physician watched the case for four or five days, and felt confident that the trouble was tubal pregnancy, with rupture, hemorrhage, and resulting inflammation. Dr. Brown, who was asked to see the case, made the same diagnosis.

*Operation.*—This revealed an ovarian cyst and general peritonitis. Exploration of the interior of the uterus showed that there had been a recent abortion. The miscarriage was evidently the cause of the peritonitis, which eventually proved fatal.

CASE 8.—*Miscarriage and Ovarian Tumor.*—Reported by Fortun.[4] A patient who had missed the menses, had pains in the lower abdomen, followed by bloody discharge. The evidences of abortion were not sufficiently distinctive to justify a positive diagnosis of the same. In the presence of this suspicious history, examination revealed a tender mass in the pelvis beside the uterus, and a diagnosis of extrauterine pregnancy was made. Operation revealed that the trouble was an ovarian tumor associated with an early miscarriage.

CASE 9.—*Miscarriage and Broad-Ligament Tumor.*—Reported by Fortun.[4] This case presented practically the same features as the preceding one, namely, missed menses, abdominal pain, bloody discharge and a tender mass beside the uterus. Diagnosis, extrauterine pregnancy. Operation demonstrated that the symptoms were due to a tumor (sarcoma) of the broad ligament, associated with an abortion.

### PREGNANCY WITH ABNORMALITIES

There are various anomalous conditions that may cause an intrauterine pregnancy to simulate an extrauterine pregnancy.

CASE 10.—*Pregnancy with Hydatidiform Mole.*—Mrs. S., aged 21, came into my service at the St. Louis Mullanphy Hospital, with a diagnosis of extrauterine pregnancy. There had been no menstruation for two months, and there were the usual symptoms of early pregnancy. Recently the patient had been having attacks of pain in the lower abdomen, accompanied by a bloody discharge. These attacks of pain had been irregular—at times severe and confining her to bed, while at other times she was able to be about the house. Finally they became so disabling that she was brought to the hospital.

*Examination.*—When I saw her she was confined to bed, with a mass the size of an orange pushing forward the anterior abdominal wall just above the pubes. The mass was firm, painful on pressure, partially fixed, and it was here that the patient located the pain and distress. There was a bloody vaginal discharge. Temperature, pulse and respiration were practically normal. On bimanual examination the deeper portion of the mass could be made out, and it was found to be the size of a child's head. Indistinct fluctuation was obtained. The body of the uterus could not be made out, but the impression obtained was that the mass lay in front of the corpus uteri, which was pushed backward and could not be felt on account of the mass. The forward projection of the mass against the abdominal wall was very marked.

I was inclined to agree with the diagnosis of extrauterine pregnancy, but was not entirely satisfied, as I had not located certainly the body of the uterus. I concluded to watch the case for a while. The patient was kept absolutely quiet and sedatives were given as needed for the pain. The patient was better for a time but later the pain recurred. It troubled her every day, at times quite severely, but could not be identified as uterine contraction pains. No variation in the consistency of the mass was noticed. The bloody discharge continued. A few very small clots were noticed, but no membranes or shreds. I continued the observation for ten days, and the longer I observed the more confusing the conditions became. The process, whatever it was, was progressing rather rapidly. In the ten days the mass had enlarged decidedly and the pain had increased—so much so that at the end of the period it was evident that something must be done, as further prolongation of the trouble would seriously weaken the patient, who was not very strong at the beginning. The crucial point, which so far I had been unable to decide, was whether the mass was uterine or extrauterine.

*Operation.*—I decided to examine the patient under anesthesia, having everything ready to operate in case the mass proved to be extrauterine. Under the complete relaxation of anesthesia I was able to determine that the cervix expanded symmetrically into the mass, which was thus identified as the body of the uterus. It was found, however, to be twice as large as it should be at that period of pregnancy. This abnormal enlargement with the prolonged bloody discharge and the increasing pain made it evident that there was some serious pathologic condition within the uterus and not a normal pregnancy. I dilated the cervix slightly, and there escaped several small cysts. That made the diagnosis plain, and I then dilated the cervix widely and removed from the uterus a beautiful specimen of hydatidiform mole. The uterine cavity was literally packed with the grape-like bunches of minute cysts characteristic of this condition. No trace of a fetus was found. The patient recovered without further trouble, and has since

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[3] Brown: Am. Gynec. and Obst. Jour., 1897, x.

[4] Fortun, E.: Three Mistaken Diagnoses of Extrauterine Pregnancy, Rev. de med. y cirug. de la Havana; abstr. in THE JOURNAL A. M. A., 1905, xlv, 364.

Bovee mentioned cases of tubal and ovarian hemorrhage, not due to extrauterine pregnancy, reported by Price,[17] Newman,[18] Griffiths,[19] Briggs,[20] Croom,[21] Paul Ruge,[22] Goodell,[23] Duncan,[24] Pilliet,[25] Maurange,[26] Peuch[27] and Doran.[28] He referred also to cases occurring in virgins at an early age, reported by Fordyce;[29] to fatal cases reported by Walter,[30] Lewis[31] and Fowler;[32] to cases successfully treated by abdominal section, reported by Boldt,[33] Alloway,[34] Knaggs,[35] and Johnson;[36] and to the celebrated cases of Scanzoni in which at an autopsy on the body of a young girl, dying suddenly during menstruation, three liters of blood were found in the peritoneal cavity. These hemorrhages from the non-pregnant ovary (ovarian apoplexy, blood-cysts, follicular hemorrhage, etc.) and from the non-pregnant tube (hematosalpinx) are usually due to inflammatory changes, causing degeneration of the tissues and of the contained blood vessels. Occasionally a tumor of the ovary or tube is the causative lesion.

CASES 32-34.—Manton[37] reported a case of *hemorrhage from varicose vein of broad ligament* (Case 32), Fairbairn[38] *salpingitis with collapse* (Case 33), Ford[39] *perforative appendicitis with pelvic tumor* (Case 34), all mistaken for extrauterine pregnancy.

CASE 35.—*Fulminating Pelvic Edema.*—Reported by Briggs.[40] A married woman, whose menstruation had been normal, came complaining of malaria and some pelvic pain. Pelvic examination showed nothing abnormal except a slight fulness about the left adnexa. Two days later the patient returned to the office, very sick. Her face was pale and pinched and anxious; pulse 120, small and weak; temperature, 100. The pelvis was then completely filled with a fluctuating mass. The rapid development of the mass with almost no fever, pointed to hemorrhage as the cause, and a diagnosis of tubal pregnancy was made. At the operation the pelvis was found filled with small cysts of various sizes, formed by collections of serum within the connective tissue. There was no tubal pregnancy. The pelvis was drained and the patient recovered.

CASES 36-38.—Briggs[40] reported another case of *fulminating pelvic edema* (Case 36) simulating tubal pregnancy, and cites in detail two other cases, one reported by Legneu (Case 37) and the other by Jocet (Case 38).

The cases of fulminating pelvic edema present a puzzling problem in etiology and in diagnosis. The following case, though not mistaken for tubal pregnancy, illustrates the startling suddenness of the development of the trouble and the obscurity of the cause.

CASE 39.—*Fulminating Pelvic Edema.*—Last year I was called in consultation by Dr. S. T. Bassett of St. Louis, to see a patient with pelvic disturbance. It was Sunday; the patient had attended church in the morning feeling fairly well, but while there became very sick and could scarcely get home. She had a chill, followed by severe headache and general aching, but no localizing symptoms. There was no apparent local trouble in any part of the body to account for the fever, which rose to 105.5. By evening there was evidence that the pelvis was the seat of the disturbance and I was asked to see the patient.

*Examination.*—I saw her about 10 p. m. The temperature had been reduced to 104. The pulse was rapid but of fair volume. The pelvis was filled with a tender mass which surrounded the uterus and fixed it firmly. There seemed to be acute pelvic inflammation with extensive exudate. But there was no apparent cause, either recent or remote. The patient had always been rather nervous and this had been somewhat worse of late, but there had been no symptoms indicating pelvic disease of any kind. The next day the temperature was 104.2, pulse 120, respiration 28, and there was much peritoneal irritation. Operation at once was indicated, to check the rapidly progressing inflammation, if possible, and accordingly the patient was taken to the hospital.

*Operation.*—When the abdomen was opened the pelvis was found filled with small encysted collections of fluid involving the tubes, ovaries, broad ligament and uterus. The cysts or pseudocysts were of various sizes, were filled with clear serum and seemed to extend deeply into the substance of the organs involved. From the appearance, I suspected hydatid disease. I removed all the cysts that it was feasible to remove and then drained the pelvis through the abdominal incision.

The temperature dropped within a few hours to 98 and it did not again go high. During the first part of the period of convalescence it ranged from 99 to 100.2, and later dropped to normal, where it remained. The wound and drainage tract healed rapidly and the patient had a smooth convalescence. Laboratory examination of the tissues removed showed no bacteria of any kind, no evidence of hydatid disease, and no specific pathologic process that would adequately account for the alarming symptoms and the marked tissue change. It was evidently a case of fulminating pelvic edema.

## REMARKS

From the thirty-six cases above mentioned which simulated tubal pregnancy the following practical conclusions may be drawn:

1. Gonorrheal pyosalpinx, after the acute symptoms subside, may lie dormant and unsuspected for a long period (four years in one case reported above). During this quiescent period the pus-tube (containing sterile pus usually) is tolerated the same as a small tumor or other non-irritating body—the patient being practically well and without decided pelvic disturbance.

Such a quiescent pus-tube may at any time give rise to an acute exacerbation, and the onset of the pain may be so sudden and apparently causeless as to suggest tubal pregnancy. This suggestion is strengthened by the continued enlargement of the mass (from irritative exudate) without decided fever (for the pus is sterile). Accompanying the exacerbation or preceding it there are sometimes other symptoms that we associate with tubal pregnancy, viz., missed menstruation, stomach disturbance, tenderness of the breasts, and softening of the cervix uteri. The last three are accounted for by the peritoneal and periuterine irritation and congestion, but why there should be delayed or missed menstruation at this inopportune time I do not know. One would suppose that the irritation and pelvic congestion would cause the menstrual flow to be excessive rather than absent. It is possible that the temporary suppression of menstruation (from some nervous disturbance or other obscure cause) stands in a causative relation to the acute exacerbation with its subsequent symptoms. I offer this simply as a suggestion toward a possible explanation of this strange and misleading sequence of events (the missed menstruation followed by the other symptoms detailed).

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17. rice: Am. Jour. Obst., 1892, xxv, 338.
wman: Am. Jour. Obst., 1893, xxvii, 271.
riffiths: Brit. Med. Jour., 1896, ii, 1824.
Briggs: Liverpool Med. Chir. Jour., 1890, x, 504.
Croom: Med. Press and Circular, London, 1891, ii, 189.
Ruge: Centralbl. f Gynäk., No. 24.
23. Goodell: Am. Jour. Obst., 1890, xxi, 942.
24. Duncan: Tr. London Med. Soc., 1892 (Sajous's Ann. Univ. Med. Sc., 1893).
25. Pilliet: Ann. de gynéc. et obst., 1893, xi, 366.
Maurange: Ann. de gynéc. et obst., 1893, xi, 37.
Peuch: Gaz. hebd. de méd., 1859, vi, 40.
Doran: Tr. Obst. Soc., London, 1891, xxxii, 119.
F : New York Med. Jour., 1889, xlix, 180.
30. r: Med. Bull., Philadelphia, 1881, iii, 181.
s: St. Louis Med. and Surg. Jour., 1888, xliv, 158.
ler: Ann. Anat. and Surg. Soc., Brooklyn, 1880, ii, 67.
ldt: Ann. Gynec. and Pediat., 1890-91, iv, 6.
lloway: Montreal Med. Jour., 1893-4, xxii, 679.
Knaggs: Tr. Obst. Soc., London, 1893, xxxv, 213.
Johnson: Tr. Soc. Alumni, Bellevue Hosp., New York, 1896, 137.
37. Manton: Tr. South. Surg. and Gynec. Assn., 1900.
38. Fairbairn: Jour. Obst. and Gynec., Brit. Emp., 1907, xii, 451.
39. Ford: Am. Jour. Obst., 1902, xlvi, 361.
40. Briggs, Wallace A.: Fulminating Pelvic-Abdominal Edema Simulating Ruptured Tubal Pregnancy, THE JOURNAL A. M. A., Feb. 15, 1908, l, 528.

In cases of supposed tubal pregnancy of the type mentioned particular care should be taken to exclude chronic gonorrheal salpingitis, as follows: (a) by inquiring into the patient's history for evidences of specific vaginitis or urethritis and for subsequent pelvic symptoms (an inquiry into the husband's history also may bring out valuable information); (b) by a careful examination for evidences of a chronic urethritis, Bartholinitis, endometritis or salpingitis; and (c) by staining for the gonococcus any suspicious discharge that may be obtained from the urethra, vulvovaginal glands, uterus or vagina. In chronic cases negative findings do not exclude gonorrhea, for the gonococcus disappears from the discharge after a time.

2. In rare cases acute gonorrhea may extend rapidly through the uterus to the tubes and peritoneum, with so little disturbance of the vagina and vulva as to arouse no suspicion of its presence. In such a case the acute peritoneal symptoms will come on suddenly and without apparent cause. If there happens to be also delayed or scanty menstruation, tubal pregnancy may be suspected. And this suspicion is strengthened by the stomach disturbance, the softening of the cervix and the enlarging mass beside the uterus. In my case above mentioned the diagnosis was further obscured by the curettement, which modified the discharge, and by the continued low temperature, which seemed to exclude acute inflammation. In all such doubtful cases with acute discharge it is advisable to examine for gonococci, even though the discharge be scanty and bloody and apparently non-purulent.

3. An early miscarriage, if associated with a tumor or followed by mild salpingitis, may very closely simulate tubal pregnancy. Membranes may be passed in either condition. With a miscarriage there is an embryo, but it often passes unnoticed. If a shred of tissue is passed it may be examined for chorionic structures. In a case which can not be decided otherwise, curettement is advisable to obtain tissue for microscopic examination for chorionic villi. But in suspected tubal pregnancy such a curettement should not be carried out until the patient is in a hospital and prepared for abdominal section, for the manipulations may start internal hemorrhage, requiring operation at once.

4. A pregnant uterus may present very misleading conditions: e. g., irregular softening (so much so that the body seems to be a firm mass entirely separate from the cervix), displacement, backward or forward or laterally; hyperesthesia with displacement or irregular softening or an associated lateral mass (salpingitis, etc.). If there is in addition an anomalous history, a mistake is quite probable.

5. An unsuspected tumor in the pelvis may give rise suddenly to severe disturbance, and if there happen to be present also some of the symptoms of early pregnancy, a diagnosis of extrauterine pregnancy is very probable. The cases mentioned above show that the early symptoms of pregnancy (missed menstruation, stomach disturbance, breast tenderness and softened cervix uteri) often appear without satisfactory cause and at most inopportune times.

6. Ovarian hemorrhage or tubal hemorrhage, due to other conditions, may so closely simulate extrauterine pregnancy as to be indistinguishable before operation, and in some cases the matter is in doubt even after direct exposure and handling of the affected structures. In this connection there are three points to be kept in mind: (a) there may be slight hemorrhage from the tube or ovary, particularly at the period of menstrual congestion, not due to extrauterine pregnancy and not requiring operation; (b) in cases of tubal hemorrhage requiring operation the hemorrhagic condition of the tube is not necessarily due to pregnancy, and in doubtful cases should not be pronounced such until after confirmation by microscopic examination; (c) in a hemorrhagic condition of the ovary requiring removal of the same; a careful examination should be made to determine exactly the pathologic condition. Such a supposed simple "blood-cyst" of the ovary may prove on careful microscopic examination to be an early ovarian pregnancy.

7. Salpingitis, appendicitis and perforations in the gastrointestinal tract may, in rare cases, come on so suddenly and progress so rapidly as to suggest internal hemorrhage from extrauterine pregnancy. Usually in these conditions there are preceding or accompanying symptoms which point to the true nature of the disease. If these distinctive features are absent and there happen to be some of the other symptoms of tubal pregnancy, a mistaken diagnosis is probable.

8. Fulminating pelvic edema with its sudden onset and the rapid development of alarming symptoms may closely resemble extrauterine pregnancy. In my own case, above cited, the temperature was so high that it was easily distinguished as an inflammatory trouble and not a hemorrhage, but in other reported cases this feature was lacking and mistaken diagnoses of extrauterine pregnancy were made. In this, as in other conditions of non-hemorrhagic shock or depression, there is not the persistently blanched condition of the skin so characteristic of profuse hemorrhage. The pulse, also, though rapid, is likely to have better volume than after a severe hemorrhage.

9. It is evident that the diagnosis of extrauterine pregnancy must rest on the combination of several symptoms. No one fact is sufficient, and it is hazardous to depend on two or three facts unless they are especially strong and well-marked. In most cases the diagnosis must be reached by a careful consideration of all the symptoms present and the definite exclusion, one by one, of other conditions which may produce similar symptoms.

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# EXTRAUTERINE PREGNANCY WITH ESPECIAL REFERENCE TO THE PROPER OPERATIVE PERIOD AFTER TUBAL RUPTURE

## WITH REPORT OF CASES *

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There are few conditions in the practice of medicine and surgery that commands greater care and skill in diagnosis than that of extrauterine pregnancy. A physician may practice months and even years without the occurrence of a case, but I dare say, ere long, he will meet the condition when he least expects it. The vital importance of diagnosis can not be too greatly impressed on our minds, because in many cases failure of diagnosis means a fatal result to the patient.

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The general practitioner usually sees these cases in their beginning. On him rests a grave responsibility and, indeed, he should not bear it alone. Surgical counsel may reassure the diagnosis and save the life of the patient by proper surgical intervention. This is not to reflect on the diagnostic ability of the general practitioner, as in such a tragic condition the surgeon acquires that alertness and acuteness in diagnosis which necessarily follow the greater frequency of contact with these cases.

A positive diagnosis of extrauterine pregnancy before rupture has been rare. It is one of those conditions in which a few positive diagnoses have been made, many probable ones have been made, and a great many never have been made until after the abdominal cavity is opened. I am convinced, however, that there are many instances in which strong presumptive diagnosis should have been made, and in which the patient is allowed to pass from observation to suffer the unfortunate results of the physician's carelessness. No pelvic examination should ever be made without keeping clearly in mind the clinical features of the salient conditions, in their incipiency, which affect the genital tract.

Most cases of ectopic gestation do not come under the physician's observation before rupture. Some of the cases in which there is an opportunity to question before the tragic occurrence, however, give a typical history that should lead one to be very suspicious of abnormal pregnancy.

The majority of patients have had children, but usually a long time has elapsed since the birth of the last child. Interrogating the patient with reference to previous pelvic disease may determine the existence of ingitis or some pelvic distress.

e subjective symptoms of ectopic are not infre- tly like those of normal pregnancy. There is usually a cessation of menstruation for one or more periods, though in many cases there is no omission of this function, the last one frequently being more profuse and of longer duration, or less in amount and shorter in duration than normal. In case there is a cessation of menstrual flow, it is usually re-established, irregular as to time, of a tarry, smeary and sticky character, which, according to some observers, is pathognomonic. The pain is usually of a cramp-like character, occurring at intervals for several days or weeks, doubtless owing to an effort on the part of the tube to rid itself of a foreign body. There is, as a rule, following the colicky pain, a dark sanguineous discharge, in all probability due to a partial rupture of the gestation sac. If microscopic examination is made, decidua is found in the majority of cases.

While it is of extreme importance to obtain a careful history, the information is enhanced markedly in value by a careful and thorough examination. Indeed, I am almost convinced that thoroughness is the rule and carefulness the exception. Until the possible diagnosis of ectopic gestation can be eliminated in which where its presence is strongly suspected, the pelvic examination should be made with great gentleness to prevent rupture by the examining finger. I can not imagine a more frightful experience to occur in a physician's office, where such cases are frequently first examined, than to rupture an impregnated tube. Not infrequently such cases are reported.

There is usually a turgescence of the external genitalia noted, as in normal intrauterine pregnancy. The cervix is soft and the os patulous. The uterus is enlarged and may be displaced in accordance with the size of the tumor. The tumor mass is variously located, usually to one side or maybe behind the uterus, or may even be anterior to this body. It is doughy in consistence and fixed to some degree, depending on the duration of gestation. Contrary to the statements of many observers, the exquisite tenderness in the majority of cases that I have examined has not been elicited, and in some cases little or no tenderness was complained of.

The whole aspect of the case changes following rupture. Here the history is of some value, which one may be able to obtain with difficulty. The symptoms of the attack in conjunction with the pelvic examination, however, will make the diagnosis a comparatively easy one. What is a more characteristic clinical picture than a sudden, sharp, agonizing, abdominal pain, severe enough to make the patient faint, provoked by a misstep or slight exertion, and accompanied by nausea, vomiting and collapse? The thirst, subnormal temperature and extreme restlessness of the patient will usually guide one to a correct diagnosis of internal hemorrhage. Slight abdominal rigidity and tenderness is noted subsequent to rupture, due to peritoneal irritation from the clot. Bimanual examination will reveal an ill-defined fulness behind the uterus.

With such an array of signs and symptoms as enumerated, a positive diagnosis of ectopic gestation should be made without hesitancy on the part of the examining physician.

In a large number of cases the sudden pain and collapse are the first signs of abnormal pregnancy. Then, again, there may be a soreness or a sense of distress in one or the other of the ovarian quadrants, only to be followed on the slightest physical provocation by the characteristic pain and signs of internal hemorrhage, which delivers the patient at the threshold of death in a very few hours if proper treatment is not administered. The history of pelvic disorder or a long interval of sterility may be wanting. If the examination for decidua is made, its absence may leave one in doubt, even though it is found in only a little more than half the cases. One is likely to be misled in diagnosis by the premonitory symptoms of ectopic pregnancy, following a very recent menstruation, which is frequently but of a few days' duration. Under all circumstances, however, the physician's suspicions should be aroused and the patient kept under close observation.

The condition from which one commonly has to differentiate extrauterine pregnancy are salpingitis, appendicitis and uterine abortion. I believe that the diagnosis of salpingitis should not leave one long in doubt in most cases. The early increased temperature, denoting infection, the usual bilateral involvement, the extreme tenderness and fixation, the absence of early signs of pregnancy and sanguineous discharge from uterus should calm one's anxiety so far as extrauterine pregnancy is concerned. In appendicitis local symptoms are usually confined to the iliac fossa; leucocytosis is present and the pain is usually first located in the region of the umbilicus, later general and finally localized at McBurney's point associated with tenderness and rigidity.

Uterine abortion, it must be admitted, leaves one frequently in doubt as to the real nature of the condition. The history may be of some value in some cases in which abortion has been induced. The attack is less sudden and the pain less severe than in ectopic gestation; the ovum may be noted in the discharge from the uterus; on pelvic examination there is usually dilatation of cervix especially if secundines remain in the uterus; a mass laterally placed or an ill-defined fulness behind the uterus is absent; the symptom-complex of loss of blood is late, as compared to that of internal hemorrhage from rupture of tube; frequently, especially if there is sepsis, there is a high temperature. While it may seem expedient in exceptional cases to curette the uterus for purpose of diagnosis, I believe that it is the consensus of opinion that this is bad practice.

The positive etiology of ectopic gestation is still a matter of speculation. Possibly no one condition operates in its production, but the combination of many conditions is the rule. One of the most frequent predisposing factors is probably salpingitis, which causes the destruction of the ciliated epithelium of the tube, increases the connective tissue and produces attachment of the tube by adhesion, thereby interfering with peristalsis, and distorts and completely obstructs its lumen. The impregnated ovum may lodge in a diverticulum of the tube in its passage to the uterus. Pressure from without may cause tubal obstruction as from uterine fibromas or tumors of the broad ligament. An attenuated tube of fetal type is regarded as a cause in some cases. Whatever may be the most constant predisposing or positive factors at work in the causation of extrauterine pregnancy, it is evident that prophylaxis has little to support it in an attempt at lessening its occurrence.

The passage of the ovum may be arrested at any point from the ovary to the uterus. The possibility of an ovarian pregnancy has led to a great deal of discussion, with the general opinion that it rarely occurs. Spiegelberg says that "the following conditions must be met before we can make a positive diagnosis of a given case of extrauterine pregnancy being ovarian: 1. The tube on the affected side must be intact. 2. The fetal sac must occupy the position of the ovary. 3. It must be connected with the uterus by the utero-ovarian ligament. 4. Definite ovarian tissue must be demonstrated in its wall."

The fact that, in certain cases of tubal and broad-ligament pregnancy, the ovary may be flattened out so as apparently to occupy a part of the wall led Williams to modify the fourth condition, stating that ovarian tissue should be found in a number of places in the sac wall at some distance apart. Tubal pregnancy is the most common variety of ectopic gestation; as the tube is divided into the ampullar, isthmic and interstitial portions, tubal pregnancy is accordingly defined as ampullar, isthmic and interstitial, frequency being in the order named.

It is the general belief that the existence of a primary abdominal pregnancy has yet to be demonstrated. In reality, abdominal is probably secondary to tubal pregnancy. According to the work of Martin and others, the ovum can become implanted on a thin strip of tubal tissue which extends from the fimbria to the ovary. It is obvious that such cases may be recognized as abdominal pregnancy when really they are of tubal origin.

It was formerly supposed that tubal abortion rarely occurred, but according to statistics it is the most common termination of tubal pregnancy. Martin asserts that tubal abortion is the rule, and that in only exceptional cases does the tube rupture into the peritoneal cavity, this occurring when the fimbria is closed, which prevents tubal abortion. In three of my cases reported in this paper the patients aborted in like manner.

In case of a small embryo being extruded into the peritoneal cavity, there is no doubt that in many cases absorption takes place. Not infrequently, too, absorption of embryo has taken place in the tube, evidences of

TABULAR REPORT OF CASES *

| Patient. Age. | Diagnosis Made. | Ectopic Site. | Rupture, if so, when? | Previous History. | Symptoms. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|
| 1...Mrs. H...32 | Before operation. | R tube. | Yes, 10 days. | Had not been pregnant for two years. No pelvic distress. | Intermittent pain; subnormal temperature; rapid pulse; missed one period; later fever; re-established menses. | Recovery | Family refused operation until infection developed. |
| 2...Mrs. P...26 | Before operation. | R tube. | Yes, 36 hours. | Last pregnancy five years before. Had pelvic distress. | Intermittent fever; subnormal temperature; missed periods; passed membranes; tumor in right side. | Recovery | Did not operate until patient recovered from shock. |
| 3...Mrs. S...31 | Before operation. | L tube. | Yes, about a week; small quantity blood. | Never pregnant. History of salpingitis. | Pain; missed period; continuous menstruation. | Recovery | Operated 12 hours after seeing her; small amount of blood in cavity. |
| 4...Mrs. L...35 | Before operation. | R tube. | No. | No children. Had had pelvic distress. | Slow period; mass in tube; continuous menstruation; pain at interval. | Recovery | Widow. |
| 5...Mrs. B...32 | Before operation. | R tube. | Yes, 36 hours. | Never pregnant. | Intermittent pain; subnormal temp.; rapid pulse; missed period; fulness in cul-de-sac. | Recovery | Operated 12 hours after seeing her. |
| 6...Mrs. R...28 | After operation. | R tube. | Yes, probably 3 weeks before. | Pregnant three years before. | Distended; vomiting, high temperature indicating sepsis and obstruction. | Death | The blood was clotted and firmly adherent to intestine; died 12 hours after operation. |
| 7...Mrs. B...38 | After operation. | R tube. | Yes, 30 min. before operation. | Last pregnancy fifteen years before. | Tumor in right side the size of a child's head. Menstruation regular; temperature and pulse normal. | Recovery | Five months' fetus; tube ruptured and she collapsed on way to operating table. |
| 8...Mrs. J...30 | Before operation. | R tube. | Yes, 2 days before. | Last pregnancy two years ago. Pelvic distress. | Intermittent pain; missed period; tumor; menses re-established. | Recovery | The hemorrhage was small; the mass was aborting. |
| 9...Mrs. H...40 | After operation. | L tube. | Yes, probably 48 hours. | Last pregnancy four years ago. Pelvic distress. | Pain at McBurney's point, referred to the liver; periods normal. | Recovery | Mass adherent to anterior wall at "left McBurney point." |
| 10...Mrs. B...30 | Before operation. | L tube. | Yes, 8 hours. | Abortion about six months before. | Slow period, continuous flow; pain; tumor in distal end of tube. | Recovery | Tube was aborting. I think the hemorrhage was started by examination; small hemorrhage. |
| 11...Mrs. C...40 | Before operation. | R tube. | Yes, 72 hours. | Last pregnancy fourteen years ago. | Missed period; intermittent pain; shock; mass in cul-de-sac. | Recovery | |
| 12...Mrs. N...23 | Before operation. | R tube. | No. | Pelvic distress. | Usual symptoms of pregnancy except periods of pain during the first months. | Recovery | Eleven months' fetus; tumor extraperitoneal; mild sepsis; mass weighed 14 pounds. |
| 13...Mrs. G...26 | Before operation. | L tube. | Yes, 1 week before. | Never pregnant. | Intermittent pain; shock; missed period; later infection. | Recovery | Operation delayed; doctors could not agree on diagnosis. |

* Owing to the incompleteness of my early records, I am reporting only the cases in which I have operated in the last three years.

which have been discovered at operation or postmortem examination. After the fetus has reached a larger size, absorption would be impossible; it then undergoes one of several changes; it may become mummified, the liquid contents of the embryo being absorbed and nothing remaining of the fetus except the bones covered with loose shriveled skin. If suppuration takes place the patient usually dies from sepsis unless the pus is evacuated by rupture or drainage. In some instances there is a deposition of lime salts within the fetus and membranes, converting them into a lithopedion. Very rarely the fetus is transformed into a greasy, yellow mass known as adipocere.

It is universally considered that the treatment lies entirely within the domain of surgery. The time of this procedure after rupture, however, has provoked heated discussion among eminent authorities of wide experience.

As to the proper treatment in a certain class of cases, there is little diversity of opinion. In those cases in which a positive or a strong presumptive diagnosis of ectopic gestation has been made before rupture, the advisability of immediate operation is corroborated by the experience of all observers. Then, too, we frequently have to do with patients who have suffered mildly from the symptoms of internal hemorrhage unquestionably following many cases of tubal abortion. Certainly there is no contraindication to prompt operative interference in these cases. Haste, however, should not lead us to omit any measure necessary for the proper performance of the operation.

The question of immediate operation after rupture of the tube while the patient is in shock, or of deferring this procedure until reaction is thoroughly established, is as yet far from being settled. Each of these procedures has many ardent supporters, the majority being in favor of performing abdominal section without delay. My experience with these cases leads me to join the ranks of the minority.

Death from primary hemorrhage *per se* following rupture of the tube is rare; otherwise there would be many more postmortems than operations performed on these cases. In what percentage of cases has active hemorrhage been positively found on exploring the peritoneal cavity? This point has not been sufficiently investigated to be dogmatic, but I am of the firm belief that active bleeding is rarely found at time of operation. Moreover, unless there is positive evidence that active bleeding is present, I am of the opinion that in most cases hemorrhage has ceased even before the patient is examined by a consultant.

Is it justifiable to perform an immediate major operation in such cases while the patient is *in extremis* when 95 per cent. (Robb) of all patients of several observers recover from the primary hemorrhage? It seems to me that there is everything to lose and little to gain by such a procedure in a large percentage of these cases. The additional shock brought about by moving the patient to the hospital is always evident; if hospital is not accessible, the active preparation at home and the unsurgical surroundings lessen the patient's chances of recovery. The inability to secure the prompt service of a skilful operator, the prolongation of operation by a surgeon with little experience and the additional anesthetic, will frequently decide the unfortunate fate of the patient. The removal of intra-abdominal pressure before reaction is established, I am convinced, frequently causes the patient to bleed to death into her abdominal vessels.

By deferring operation after the rupture of the tube the patient is allowed to react from the immediate effects of shock, when the operation can be performed with greater safety. During this period the patient should be kept under close observation and quiet, head low, given morphin if restless, little stimulation and ice-cap to abdomen and heat to the extremities. One is thus able also to take every precaution in preparation of a patient, minimizing the possibility of infection, which is the second most frequent cause of death. The administration of ether is not then a decided disadvantage. The equilibrium of blood-pressure between the abdominal and the peripheral circulation, so to speak, has been re-established; whereas the sudden relief of intra-abdominal pressure on section has but little deleterious effect on the patient after a reasonable delay. The prime purpose of surgical procedure is the assistance it lends to Nature in the saving of life. Consequently I believe that by following the plan suggested one does everything to aid Nature's own efforts and positively nothing to defeat her purpose.

The period of delay is a matter to be decided by the condition of the patient. Certainly no unnecessary delay should be allowed and usually forty-eight hours is sufficient time for a patient to revive from shock. We would certainly be at fault if we deferred the operation too long, thus inviting further complication.

In my opinion, vaginal puncture should not be made except in those cases in which infection has developed, requiring continuous drainage. The sudden relief of intra-abdominal pressure produced by vaginal puncture, while the patient is in shock, aggravates the condition. If vaginal puncture has been made instead of abdominal section, it is impossible to supply the loss of intra-abdominal pressure by the immediate introduction of normal salt solution into the peritoneal cavity.

Following abdominal section I invariably fill the peritoneal cavity with salt solution in cases in which the patients are suffering at all from shock of a recent ruptured tube. By such a measure the intra-abdominal pressure is supplied; it is gradually lessened by the process of endosmosis; besides, the salt solution has a physiologic value.

## CONCLUSIONS

1. Early diagnosis is the greatest factor in the saving of life.

2. In cases of sudden pelvic distress during the child-bearing period, the physician should always keep in mind the possibility of ectopic gestation.

3. In case of suspicion of an abnormal pregnancy, counsel should be immediately sought to clear the diagnosis if possible.

4. Operation should be performed immediately in cases in which rupture has not occurred and in cases in which the hemorrhage has not produced much shock.

5. In cases in which there is severe shock, I believe it to be good practice to wait until the patient has revived from same.

6. I do not, as a rule, advise waiting more than forty-eight hours.

7. I believe vaginal puncture to be bad practice in these cases unless infection requires continuous drainage.

8. Physiologic salt solution is of value in cases of shock (1) to maintain intra-abdominal pressure so as to equalize the circulation; (2) for its well-known physiologic effect.

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## ABSTRACT OF DISCUSSION

### ON PAPERS BY DRS. CROSSEN AND BOWERS

**Dr. C. W. Barrett**, Chicago: I agree in the main with these papers and am strongly on the side of operative treatment at the time when the patient's life is in danger from hemorrhage. I am interested in the diagnosis of extrauterine pregnancy because in a large charity hospital with which I am connected the cases if diagnosed come to the surgical obstetrician, and if undiagnosed they go to the general surgeon and the surgeon gets most of them, for usually they are not diagnosed. Dr. Crossen lays down definite points in differential diagnosis which are to be followed in the main. The differential diagnosis may not be of the highest practical importance in the most doubtful cases, because almost any one of these conditions requires active operative interference. There is good reason for the difficulty of diagnosis between gonorrheal infection resulting in gonorrheal salpingitis and extrauterine pregnancy, because in about 75 per cent. of the cases the patient with extrauterine pregnancy has had gonorrheal infection and frequently a well-marked pus tube is found on the opposite side. In making a diagnosis of extrauterine pregnancy, we are often led to say that we should have a previous history of sterility. One of my internes said the other day: "This looks like extrauterine pregnancy, but it is not, because there is no history of previous sterility. That which is more important is history of previous pelvic disease." In most of the cases of extrauterine pregnancy the patients have a stormy pregnancy up to the time of rupture. Primary rupture may be only partial; first into the tube and later into the peritoneal cavity. This has an important bearing on treatment.

The second speaker laid stress on early diagnosis, even to the extent of sending for an expert to make the diagnosis, and he recommended operation in all patients who could possibly wait, and then insisted on delaying those cases in which the patient is actually dying because a blood vessel is leaking. It is said that the bleeding patients do not die; that hemorrhage ceases short of death. Robb operated on thirty-two dogs to show that women do not die from rupture of extrauterine pregnancy. Most of those dogs were not even pregnant dogs. Conditions were altogether different. He went on to show that the patients operated for extrauterine pregnancy did not usually have the amount of blood in the abdominal cavity that a dog can lose and still live. It matters little about the amount of blood in the abdominal cavity found post-mortem as proof against the fact that the woman is dead. Women die now and have died in previous years from the cause and that has emphasized the importance of early diagnosis of extrauterine pregnancy and early action in these cases. In the class of cases in which Robb and others urge that operation be defered because the patient is in shock, it is of the utmost importance that the patient be operated on immediately. A certain percentage of these women will die if they are not operated on, and they must be operated on early. No one can say when hemorrhage has stopped in extrauterine pregnancy or if stopped when it will recur. Rupture is often only partial and the patient may have another hemorrhage causing death.

**Dr. Edward A. Schumann**, Philadelphia: With regard to this, to my mind, pernicious teaching of deferred operation, I wish to say that I had occasion to bring down for the scientific exhibit twenty specimens of ectopic pregnancy from the Gynecean Hospital of Philadelphia. Of these twenty specimens, three are post-morten; one because operation was refused; two because the patients lived in the country where the surgeon could not reach them quickly enough. The inference is obvious and need not be enlarged on.

**Dr. Ross McPherson**, New York: I want to speak in favor of immediate operation. At the New York Lying-in Hospital there are many cases of ectopic gestation and the patients usually have been treated for a considerable period of time before they get to us; that is, they are in pretty severe shock and in bad condition when they come in. It has been our custom to operate in all cases as soon as the diagnosis is made, believing that shock is mostly due to hemorrhage, and that with a patient having hemorrhage, shock is not going to lessen until hemorrhage has ceased. Our results are excellent. Most of the patients recover. I do not believe any man can say just when a hemorrrhage has stopped and when it has not in these cases in which there is a marked amount of symptoms. I think it is important to get into the abdomen and to get out quickly. It is not an operation that requires a great deal of time if the operator is fairly rapid. The operation should be done in twelve or fourteen minutes, and thus it is possible to save patients who otherwise would have died. If we wait for forty-eight hours the woman may die, and after she is dead it does not make a bit of difference about treatment, so far as the patient is concerned. The theory of waiting may be all right, but I do not believe it pays, and the sooner we operate on these patients and stop the bleeding, the better for our patients. I think that is good surgery.

**Dr. John Osborn Polak**, Brooklyn: Twice in the last year I have seen hemorrhages which had ceased reproduced by examination of the patient while under anesthesia on the operating table. Examining a patient under an anesthetic in supposed ectopic gestation is always dangerous and unsatisfactory, as it tends to increase the rupture and the amount of hemorrhage. These patients supposed to have extrauterine pregnancy, should never under any circumstances be stimulated. Morphin in large doses relieves the restlessness and is the best stimulant that we have. It should be given in doses of from ¼ to ½ grain, instead of the usual stimulants commonly employed by the general practitioner. The immediate operation in my hands has been followed by satisfactory results. In 81 cases in the Williamsburgh, Methodist and Jewish hospitals, I have lost but 2. These patients were septic at the time of admission. Patients are usually operated on immediately, however, if the pulse is below 100 and the patient's general condition is good, the operation is often deferred until the next regular clinic day, say twenty-four or forty-eight hours. When the operation is deferred, patients are put in the elevated foot posture, the blood-pressure taken every four hours, and morphin given by the rectum. If the blood-pressure shows a drop, they are operated on immediately. Regarding treatment by infusion, these women are suffering from a loss in the volume of the blood, as well as a lowered hemoglobin and the consequent air hunger. If we fill the blood vessels up with saline solution, the air hunger is more marked. They will die of pulmonary edema, because the heart is not capable of handling the suddenly increased volume of serum. If the saline solution is injected into the abdominal cavity, not only is the intra-abdominal pressure restored, but the heart and circulation accommodate themselves to the new condition of things and the circulation takes what solution is needed, as it can handle it; and the adjustment is better and the air hunger much less marked than in the patients in whom it was infused.

**Dr. C. A. Stillwagen**, Pittsburg: Without entering into any of the arguments for or against deferred operation, I wish to state my experience so far as it has gone. I have deferred the operation now almost fifty times without mortality and without mortality from subsequent operation. In a number of these cases the hemoglobin has been as low as 20 per cent. and the red blood cells under 2,000,000. While I know it seems unsurgical to allow a patient to go on if she has a bleeding vessel, it is just as hard to diagnose that the vessel is bleeding as that it is not, and so far as experience justifies us in deferring operation, I think we are right in doing so. In the light of my experience I would not feel justified in operating on a patient *in extremis*.

**Dr. Emil Novak**, Baltimore: This seems to be developing into an experience meeting. I have not had so large an experience as some others, but I have had some. The last speaker mentioned 50 cases in which operation was deferred without any evil results. Although my series is not nearly so large, I have seen 2 cases in which the operation was unintentionally deferred because of delay on the part of the general practitioner who first saw the case, and in each instance the patient died. I was glad that Dr. Barrett emphasized so forcefully the dangers of delay in operating in these cases of ectopic pregnancy. It does seem a very unsurgical teaching, and a very dangerous one, in view of the fact that many general practitioners would get the idea that ectopic pregnancy when ruptured need not be operated on immediately, and would therefore put off sending their patients to a hospital. The question of the treatment of ectopic pregnancy is in many ways analogous to the treatment of appendicitis. I have no doubt that many men could put off operating on appendicitis and still be able to present comparatively good statistics; but sooner or later, however, they are bound to meet with disaster. I was also glad that Dr. Barrett emphasized the importance of gonorrheal infection as a cause of ectopic pregnancy. Most of us believe that ectopic pregnancy can usually be traced to pre-existing pelvic inflammation. The difficulty of distinguishing between pelvic inflammation and ectopic pregnancy is a very important point, not only in the ordinary form of salpingitis, but also in the diagnosis between a gonorrheal abscess and hematocele. It is not an infrequent finding to open up a supposed pelvic abscess and to find a hematocele instead. For this reason I do not believe that a pelvic abscess should be opened unless facilities are at hand for performing abdominal section if necessary.

Within the past year I have had the difficulty of distinguishing between early miscarriage and ectopic pregnancy. A woman of 22 missed one menstrual period, and a few weeks later developed a persistent slight bleeding. The uterus was moderately enlarged and an elastic mass was felt in the left side of the pelvis. A presumptive diagnosis of ectopic pregnancy was made. At operation the mass was found to be nothing more than an ordinary ovarian cyst. This was removed, the uterus curetted and decidual tissue found. The case was nothing more than an incomplete abortion of an intrauterine pregnancy associated with an ovarian cyst. In connection with the urgency of operation as emphasized by Dr. Barrett, I recall two cases. The first was of particular interest in that it was one of interstitial pregnancy. The patient was a colored woman about 28 years of age, who was attacked about the middle of the day with severe pains in the abdomen. She sent for her physician, who examined her and gave her some "colic" medicine. He did not examine her vaginally. She became much worse and again sent for the doctor, who did not respond until 6 o'clock in the evening, when she had become practically moribund. Then, realizing her precarious condition, he sent her to the hospital, where she died before any preparation could be made for operation. There was a tremendous ragged, gaping hole in the horn of the uterus, This case was reported to the American Gynecological Society in Washington, about two years ago, by Dr. Moseley. The second case was that of a woman who was sent to the hospital soon after the development of symptoms, but who died before reaching the hospital. The condition in this case was one of early rupture of a tubal pregnancy of the ordinary variety.

Dr. A. E. Benjamin, Minneapolis: One important point is the necessity of educating the general practitioner to make a diagnosis. There would be practically no mortality if the surgeon could see these cases first. I think it is the duty of every member of this Section who is doing surgery to teach the general practitioner to make an early diagnosis. If he is uncertain about an abdominal condition he should call a surgeon. The only mortality I have had in any of these cases has been in those in which the general practitioner had put off making the diagnosis or had neglected calling the surgeon. Another class of cases requiring prompt attention is that in which there has been pelvic inflammation with many adhesions. If we operate on these patients with a considerable amount of hemorrhage with adhesions and endeavor to clean up the pelvis at that time, there is danger. It has been my practice in certain cases simply to ligate the blood-vessels and leave the rest for a future time. Many of my cases have been diagnosed by the general practitioner as appendicitis, 90 per cent. of the extrauterine cases having been on the right side.

Dr. Henry Schwarz, St. Louis: I want to add my testimony that patients with ruptured tubal pregnancy will die at times if they are not interfered with. I have now in my possession a specimen from a case in which the woman died as she was seeking relief in the physician's office. She had not been examined and the rupture was not due to any handling by the physician. She dropped to the floor in the physician's office and was dead in a very few minutes. I have likewise seen within the last year a case in which the woman was evidently dying from internal hemorrhage, but the case was not diagnosed and the woman died while I was in the room. So women will die if the hemorrhage is allowed to go on, and I think there can be no difference of opinion that while the bleeding is going on we should operate at once if it is possible to get the patient to suitable surroundings. I likewise believe that it is wrong to give saline solutions or anything else to refill the system until the leak has been stopped. I sometimes defer operating on patients who have been allowed to go forty-eight hours or longer until they have recuperated. I feel that in these cases it may be wiser not to interfere. In many of these cases the rupture has been complete. The whole ovum has escaped and is found in the cul-de-sac of Douglas. After forty-eight hours the intestines have formed a roof over the hematocele and it does not seem good surgery to tear this open and clear out the hematocele which can be easily opened at a later season by vaginal incision and drainage.

Dr. Ralph Waldo, New York: There are two important points to be considered in a discussion of extrauterine pregnancy; perhaps more than two. In the first place, it is well to bear in mind that not far from 10 per cent. of all laparotomies performed in women are for extrauterine pregnancy in one form or another. In the second place, the most important point is to make a diagnosis. At the Lebanon Hspital in New York we admit patients with incomplete abortions with sepsis. A large percentage of the extrauterine pregnancies which come into that hospital are brought in with the diagnosis of incomplete abortion with sepsis. Every one of those patients will have a little hemorrhage. Of course, the majority are abortions of the tube. The fetus dies or is gradually separated, as it would be in the uterus. A little bleeding occurs, but does not amount to much. The patient has a little colic and a sensation as though she were going to faint; becomes blanched. With an abortion there is a different type of pain. The patients do not faint. They become blanched until later in the condition when they have lost a large amount of blood. Several such attacks may occur. If the uterus has been curetted and the patient continues to bleed, ectopic pregnancy is usually present. They all have a little rise in temperature, to about 100 F. When there is sepsis the temperature is higher and there is usually a chill. Ideally, the time to operate in ectopic pregnancy is before it ruptures, but in a large percentage of cases the surgeon does not see the patient at this time. She is sent to him *in extremis*, in profound shock. In 1905, I published an article in which I claimed, and I still claim, that in that class of cases in which the patient is in an extreme condition, if she is kept perfectly quiet, the foot of the bed elevated, hypodermoclysis used, and hot salines given by the rectum, within a few hours reaction sets in; very seldom do patients so treated bleed to death. There is the type of case mentioned by the last speaker in which the whole top of the uterus is blown off, so to speak, and that patient usually dies before the surgeon gets to her. We have operated on something over 100 such patients and have lost but two. One it was thought would die when being transferred to the hospital. The other was operated on and everything seemed all right, when she died from pulmonary thrombus. A smaller percentage of patients will die if the operation is performed when the patient is not in profound shock; she may be bleeding and not in shock and operation can be done safely at once.

Dr. F. F. Simpson, Pittsburg, Pa.: It seems to me that there are two or three factors to be considered. In the first place, concerning the one who is to operate and the conditions under which operation shall be done. We would hardly advise a man who gets a new automobile to go into a Vanderbilt race the first day that he owns a machine. I think it hardly wise to advise a man who has never opened the abdomen to attempt to do so when the patient is in the most desperate condition imaginable. I can hardly conceive of less favorable circumstances for operation than with a patient miles out in the country without proper facilities, and the physician who has never opened the abdomen. I think we should distinguish between the man who has had extensive experience and the man who has never operated. I would not venture to suggest to the successful surgeon what he should do in a given case. I would, however, offer a protest against the teaching that immediate operation is absolutely necessary, basing that protest on a record of about 130 ectopic pregnancies, with but one death from hemorrhage. Of that number not more than two or three have been immediate operations; the mortality has been about 3 per cent. I believe that 2 or perhaps 3 per cent. of such patients will bleed to death under the best conditions if not immediately operated on. I believe that that number of deaths is smaller than will occur if the average person of varying fitness for such work opens the abdomen at once; then I would expect a mortality of approximately 10 or 15 per cent. A study from the literature of over 500 consecutive cases of ectopic pregnancy in which operation was done immediately, the cases being taken indiscriminately, showed a mortality of 19 per cent. Many of these patients were operated on by good men; many by those of limited experience. I believe that that mortality of 19 per cent. is not far from the mortality that will be obtained if the teaching is promulgated that immediate operation must be done. It seems to me that when a disease has a mortality of approximately 4 or 5 per cent., it is hardly wise to advocate an operation indiscriminately which will give a mortality of from 10 to 20 per cent.

Dr. H. G. Wetherill, Denver: I should like to speak of a practice which I have followed when difficulty has arisen, such as Dr. Waldo has referred to, in the differential diagnosis between ectopic pregnancy and an incomplete abortion. This differentiation is sometimes impossible in the early weeks of gestation. After exploring the uterus, I have snipped a small opening through the posterior vaginal fornix into Douglas pouch, solely for diagnostic purposes. It will then appear whether there is blood in the peritoneal cavity or not. If other pathologic conditions are found it may be possible to deal with them through this posterior vaginal incision. Dr. Simpson has expressed my views as to operation for ectopic pregnancy better than I could express them. The operation is one which may wait under many circumstances. The immediate mortality of the condition is not necessarily a high one, and I do not ordinarily favor operating on such patients when in profound collapse. With our present methods for combating hemorrhage, many of these women may be brought to a more favorable time for operation. It may be very unwise and inexpedient to do an emergency operation for ectopic pregnancy unless the conditions and the environment are favorable to the attainment of the best results.

Dr. George Erety Shoemaker, Philadelphia: The question whether a given group of patients should be immediately operated on depends on the observed facts, not on theory. The facts are that only a very small proportion of the patients with ectopic pregnancies that a surgeon sees are in a desperate condition at the time he sees them. Begin at once to get these few desperate patients under proper conditions; if possible to a good hospital; have the preparations for operation made while using subcutaneous or intravenous salt solution. In almost every instance by the time one is actually ready to operate the patient will not be *in extremis*, and it will be better to operate at once. Then, if we eliminate from that small number of desperate cases those patients in whom we can not make a very positive diagnosis, the group is further reduced, in which it is safe to wait. I have operated on many ectopic gestations, but few of the patients were in collapse when seen, and all who were operated on during collapse have recovered. None has been refused operation. No operation has been deferred because the patient was in bad condition. The question is: Will they bleed again if let alone? I have known of 4 cases, one of them my own, in which bleeding began while waiting. Hardly any case of extrauterine pregnancy has a history of just one pain, or just one hemorrhage. No one can tell whether there will be another attack as soon as there is reaction. It depends on a good many factors beyond our control, and I believe that competent men should operate at once. Do such patients die if let alone? One of Philadelphia's coroner's physicians kept a careful record in a series of recent years of all his post-mortem examinations. He tells me that of all women dying of actual bleeding, 20 per cent. had ruptured extrauterine pregnancy.

Dr. George M. Boyd, Philadelphia: I am in accord with the essayists and desire to emphasize what has been said by one or two in discussion, particularly the remarks of Dr. Polak, in regard to the history and the early diagnosis of this condition. When considering the subject of uterine cancer and the necessity of early diagnosis, stress was laid on history-taking, and I take it that here we should follow the same lines. It is essential to make the diagnosis early. Therefore, and this should be our teaching, every woman in early pregnancy suffering from pelvic symptoms should be looked on as possibly the victim of tubal or ectopic gestation. Let us, then, study our cases carefully. Our mistakes are often, I am afraid, due to a superficial study of the history of the case, depending too much on the pelvic lesion. Until I can satisfy myself that recurrent hemorrhage will not take place, I will continue to operate in those severe cases as soon as I can get the patients into proper condition for operation. That seems to me the better course to follow. It would be unfortunate if the impression were sent out from this Section that patients do not often die from this serious complication.

Dr. H. S. Crossen, St. Louis: There are two points which I wish to emphasize. In the first place, many patients operated on for tubal pregnancy are found to have not tubal pregnancy, but some entirely different disease presenting somewhat similar symptoms. This has happened so frequently, as indicated by the illustrative cases cited, that I feel we ought to study these uncertain cases more carefully. This is a borderline field in which work is needed. If we as teachers will give more attention to the conditions simulating tubal pregnancy, our students will do likewise, and a decided advance will be made in the differential diagnosis of these conditions. The second point I wish to emphasize is that certain cases of gonorrheal salpingitis so closely simulate tubal pregnancy that the differential diagnosis is extremely difficult, even when the attention is especially directed to this condition. In these most troublesome cases, valuable differential diagnostic points may be accumulated by close observation and accurate reporting of the cases by the profession generally.

Dr. L. G. Bowers, Dayton, Ohio: In a large percentage of cases I believe diagnosis is the easiest factor to deal with in ectopic gestation. In the cases that I have seen there have been more or less definite symptoms, either a missed period or a delayed period, though menstruation may have been reestablished; a little intermittent pain, probably a little increased temperature or perhaps subnormal temperature. If hemorrhage was recent, there may be passing of thready membrane, etc. Occasionally it is, of course, very hard to differentiate between this condition and acute salpingitis. Those cases, however, are rare. When we come to speak of operation we can definitely decide the best method of treatment to follow in two classes of cases: In those cases which are diagnosed before rupture, and those in which there has been a mild hemorrhage, operation should be done at once. The only cases in which delay is permissible are those in which the patients have had severe hemorrhage and are in extreme shock. We forget that most of these patients are not near expert surgeons; we forget how large the country is. Only a small percentage of those patients are taken to an expert, and when a certain method or procedure is advised, this fact must be considered. I do not know how many surgeons will operate in fourteen minutes; very few, I think. If all operated in that time the operation would be much less dangerous. Dr. McPherson did not tell us how many of his patients were bleeding nor how many were operated on after the primary shock was past; therefore, it cannot be estimated whether the operation saved life by stopping of the hemorrhage or his favorable results were secured when patients were operated on in extreme shock. I will venture to say that very few were operated on in profound shock. The patients in whom the pulse is fast and soft are those who die when operated on. If those patients are left alone for forty-eight hours they can be operated on safely. I do not believe that the patients on whom we do not operate until they revive from the shock should be stimulated much. It is better to lower the head of the bed and give them morphin.

When the abdomen is full of blood, the bleeding to some degree has been stopped by the intra-abdominal pressure produced by the blood. Also, this intra-abdominal pressure mitigates the shock to a great degree and the sudden relief of the pressure during the shock increases it, and for this reason we fill the abdominal cavity with salt solution before closing it and not only fill it, but by introducing the salt solution with a glass tube before the last stitches are drawn tight, thereby reestablishing the intra-abdominal pressure. The pulse is also reestablished, and by gradual absorption the physiologic effect of the salt solution is obtained.

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# GENERALIZED HERPES

JAY FRANK SCHAMBERG, M.D.
PHILADELPHIA

Cases of generalized herpes zoster are of such rarity as to warrant their being recorded. But few dermatologic text-books mention generalized herpes. Within the past few years references to such cases have appeared in foreign literature. I have observed two cases in elderly men, the eruption in each instance being primarily suspected of being smallpox, although it bore greater resemblance to that of chickenpox. The notes of a recent case are appended:

*Patient.*—Mr. C., aged 66, began to suffer pain in the left scapular region on Thursday, Nov. 25, 1909. On November 28 an extensive eruption was observed covering the left scapular region, the left pectoral region, and the inside of the left arm. On the evening of November 29 a scattered eruption was observed by the patient on various parts of the body. The physician in attendance suspected that the case might be smallpox, and on the following day I saw the patient in consultation. The notes made at that time read as follows:

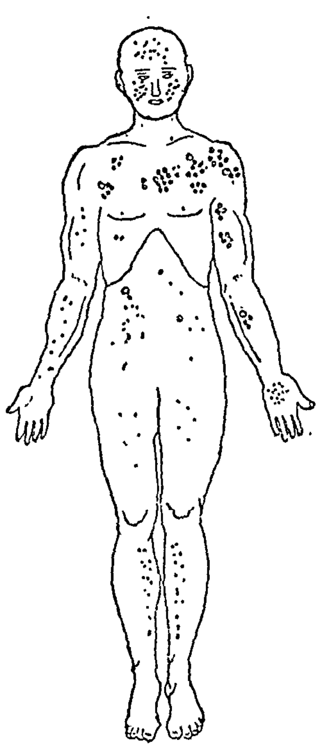

Fig. 1.—Diagram of eruption in case of generalized herpes, front view.

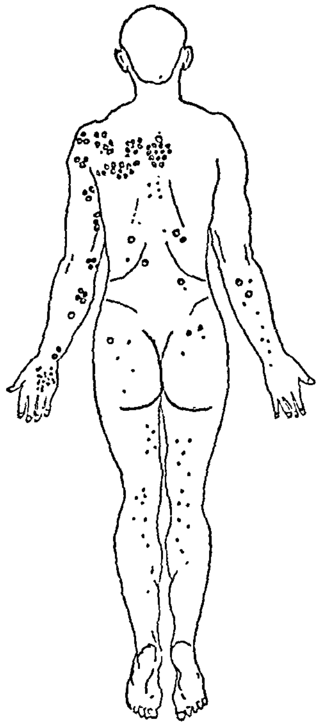

Fig. 2.—Generalized herpes, back view.

*Examination.*—The patient has a severe herpes zoster, the eruption of which involves the left posterior chest in the region of distribution of the third dorsal nerve, and anteriorly, the left pectoral region and the inside of the left arm and hand. The lesions are large vesicles, some of which have hemorrhagic contents, and look as if they might ultimately become necrotic. In addition to these lesions there are scattered vesicles and small ill-defined papules on the right chest, both sides of the abdomen, the back, forearms and legs. The lesions number about 500 or more in all, and vary in size from a pin-point to a pea or larger. Most of the scattered eruptive elements are papular, but here and there distinct herpetic vesicles are seen with clear and occasionally hemorrhagic fluid. The vesicular lesions, when punctured, give exit, for the most part, to a transparent fluid. Some of the lesions are characteristically umbilicated. The palmar surface of the left hand exhibits some papules and a number of abortive vesicles. On the forehead and scalp and over the cheeks are small papular lesions. The eruption on the lower extremities is made up for the most part of scattered, barely elevated papules. The patient's temperature is practically normal; the pain has largely subsided, and there is but little itching.

The case is unquestionably one of generalized herpes. It would seem that the toxic irritant (?) responsible for the disease, instead of localizing itself as usual to one or several spinal ganglia, has exerted its effect on many nerve ganglia, thus producing a generalized eruption.

1922 Spruce Street.

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# A CASE OF DACRYOPS

FREDERICK A. KIEHLE, M.D.
PORTLAND, ORE.

Dacryops, or cystoid dilatation of a duct of the lacrimal gland, is said by all authors to be exceedingly rare. Rogman,[1] in an exhaustive paper, succeeded in collecting only 24 cases, 2 under his own observation and 1 from the clinic of the Lawsons.[2] Zur Nedden[3] (1903) tabulated 33 reputed cases. It usually manifests itself to the temporal side of the median line in the vicinity of the lacrimal gland. The condition is either congenital or acquired. Removal of the entire cyst wall is indicated. Operation should preferably be from the conjunctival surface to avoid a scar, possible ptosis from injury to the levator muscle, and possible troublesome lacrimal fistula.

*History.*—D. D., aged 7, was brought by her parents, Nov. 13, 1909, for advice regarding a small tumor of the left upper lid. The mother stated that the growth first became noticeable about two years ago, that it varied often from day to day, but on the whole was increasing in size. Following a protracted use of the eyes and after crying it would become much larger, sometimes nearly closing the eye. During an attack of measles it caused complete ptosis.

*Examination.*—The outline of a small growth slightly to the inner side of the median line with slight ptosis is noticeable on observation. On palpation it proves freely movable and painless. Upon everting the lid a bluish cyst of the size and shape of a small pecan pops down into full view, closely attached the entire length of the tarsus and apparently arising from one of the ducts of the lacrimal gland.

*Operation.*—Nov. 23, 1909, under ether-anesthesia the cyst was exposed to view, the adhesion to the cartilage was severed, the lacrimal duct giving origin to the cyst was tied off, and by careful blunt dissection the growth was separated from the surrounding tissue in the upper fornix. It was all but free, when the thin crypt wall being accidentally punctured, the sac collapsed and its clear, watery contents escaped. The dissection was completed and all the cyst wall removed. A single subconjunctival suture brought the tissues into proper relation and held the tarsus in position. Healing was unmarked save by a slight ecchymosis. No hyperlacrimation has appeared at any time.

814 Corbett Building.

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1. Ann. d'Ophth., June, 1899.
2. Tr. Ophth. Soc. U. Kingdom, xvii, 233.
3. Quoted by Fox, 1910, p. 99.

# THE PROPHYLACTIC USE OF TETANUS ANTITOXIN*

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CHICAGO

The following case is reported in order to make a plea for the use of repeated prophylactic doses of antitetanic serum in certain classes of injuries.

A number of cases have been reported in France and Germany in which tetanus has developed, notwithstanding the prophylactic use of antitetanic serum, there having been published up to 1907 24 cases,[1] but I have been unable to find in the literature the report of any such case occurring in America. I am fully convinced that the serum, properly used, will always prevent tetanus, but wish to emphasize the fact that in cases of bad mixed infections, and especially with saphrophytic organisms, the dose should be repeated at intervals as long as the infection lasts.

*Patient.*—T. N., aged 37, superintendent of boiler works, was admitted to my service in the Presbyterian Hospital at 11 a. m., Sept. 2, 1908, four hours after a street-car accident in which he received a compound comminuted fracture of both bones of the left leg. He stated that after the accident, before he was moved, he saw a broken end of bone protruding from his leg and in contact with the street dirt, and that when he was moved the bone returned to place.

*Examination.*—This showed a badly swollen leg and foot, with a lacerated wound over two inches in length, about three inches above the external malleolus. There was crepitus and false point of motion. Later an *x*-ray picture showed that the fibula was broken into four fragments of nearly equal length, and that the tibia was badly comminuted a little above the ankle joint.

*Treatment and Clinical Course.*—The patient was immediately anesthetized with ether and the leg and foot made as clean as possible; then the wound was cleansed, two loose fragments of bone removed, and the wound irrigated with a large quantity of normal salt solution, followed by a weak solution of iodin, and then hydrogen peroxid. A rubber tube drain was then inserted from the fibular side through to the tibia, and the edges of the skin wound, kept apart with iodoform gauze. The leg and foot were then placed in good position and immobilized by a molded posterior plaster-of-Paris splint, extending from the toes to the middle of the thigh, and 1,500 units of antitetanic serum, supplied by a standard firm, were administered subcutaneously five hours after the accident. Forty-eight hours later it was evident that the patient had a severe mixed pyogenic and saphrophytic infection. His pulse ran up to 140, temperature to 103.6 F. He complained of headache and nausea and pain in the leg. The leg at that time was enormously swollen, tense, cool, and brownish in color from the knee down. A dirty thin, foul pus was discharging from the drainage tube. The patient was anesthetized with nitrous oxid, and an incision on each side of the leg was made from knee to ankle down to the deep fascia. No bleeding followed these incisions for several hours. This checked the spread of infection, as shown by the improved local conditions and lowered pulse-rate and temperature. In three days the patient's pulse was 96, temperature 100 F., the swelling of leg was reduced and the wounds looked clean, except that the drainage-tube leading down to the fractures continued to freely discharge a rather foul pus. On the tenth day the patient developed a serum urticaria which lasted thirty-six hours. Apart from the rather free discharge of pus the condition ran a fairly normal course, with temperature between 99 and 100 F., good pulse and appetite, etc., until the twenty-fifth day after the accident. On that day the patient complained of a dull aching pain in the injured leg, and although nothing wrong could be found on examination he was unable to sleep that night. The next morning he said that he must have caught cold, as his neck was stiff, and at the same time the injured leg began to twitch occasionally and the pain in it became more severe. That afternoon it was noticed that the patient could not open his mouth widely and he complained that his tongue felt stiff. The next morning he had all the symptoms of a severe tetanus, including a tonic spasm of the muscles of mastication, the neck muscles and of both legs and feet, cyanosis, very free sweating, difficulty in deglutition, rapid pulse and increased temperature. The urine contained a small amount of albumin, a few granular casts and was sufficient in amount. The appearance of the wound remained the same. The symptoms increased in severity until any slight irritation produced a severe general clonic spasm; the pulse gradually increased in rapidity and became weaker and the temperature ascended to 107.8 before death, which occurred on the fourth day after the appearance of the symptoms of tetanus. The treatment after the onset of the tetanus consisted in free irrigation of the wound with hydrogen peroxid, liberal amount of liquid diet, normal salt solution continuously per rectum, morphin enough to make the patient comparatively comfortable, and antitetanic serum subcutaneously, of which he received 18,000 units in less than four days. An autopsy was not permitted.

The unusual points about this case are the following:

1. The development of tetanus in spite of the prophylactic use of the antitetanic serum, which was given five hours after the accident.

2. The occurrence of a most acute tetanus, without any symptoms until twenty-five days after inoculation.

Because I could find no report of a similar case occurring in America, a 1,500-unit package of antitetanic serum, from the same lot as the package which was used for prophylaxis in this case, was submitted to Dr. M. J. Rosenau of the Hygienic Laboratory, Washington, who kindly made a careful examination of it, and reported that it contained over 2,000 units, or 500 units above the amount claimed.

The conclusion I reach is that, while 1,500 units of antitetanic serum will prevent tetanus when used early in cases of wounds not followed by severe infection, it may fail when used only once when there is a mixed infection present which lasts longer than ten days or two weeks. It seems that in these cases, while the tetanus bacilli have been present and active from the beginning, the symptoms of the disease have not been present because the toxins produced have been neutralized by the serum, and that when the protective bodies in the antiserum have been exhausted in combining with the tetanus toxin, the toxin which is formed afterward produces the symptoms of the disease. It is probable that in a very severe tetanus infection this exhaustion may occur in four or five days. Even in the absence of tetanus it is known that the protective bodies disappear from the blood within two or three weeks after the serum has been injected. It is suggested that the many failures of the prophylactic use of antitetanic serum in France and Germany is due to the fact that in those countries it is customary to use a smaller amount of a less potent serum than is used in this country.

It would seem, therefore, that every patient with a wound which may cause tetanus should receive as soon as possible 1,500 units of antitetanic serum for prophylaxis, and that if the wound is infected this dose should be repeated once every week while the infection lasts, and this especially if there is a mixed infection of saprophytic bacteria, as these reduce the local resistance of the tissues to the tetanus bacilli so that the latter may continue to multiply until after the injected antitoxin has been eliminated or neutralized, and then give rise to acute tetanus, as occurred in the case reported above.

622 Douglas Boulevard.

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* From the Department of Surgery, Rush Medical College, Chicago.

[1] Editorial, THE JOURNAL A. M. A., Aug. 17, 1907, xlix, 602.

# CAVITY PHOTO-PROJECTOSCOPE

## AN APPARATUS FOR PROVIDING A LARGE AUDIENCE WITH A COMPLETE VIEW AND FOR SECURING PHOTOGRAPHS OF OPERATIONS IN BODY CAVITIES

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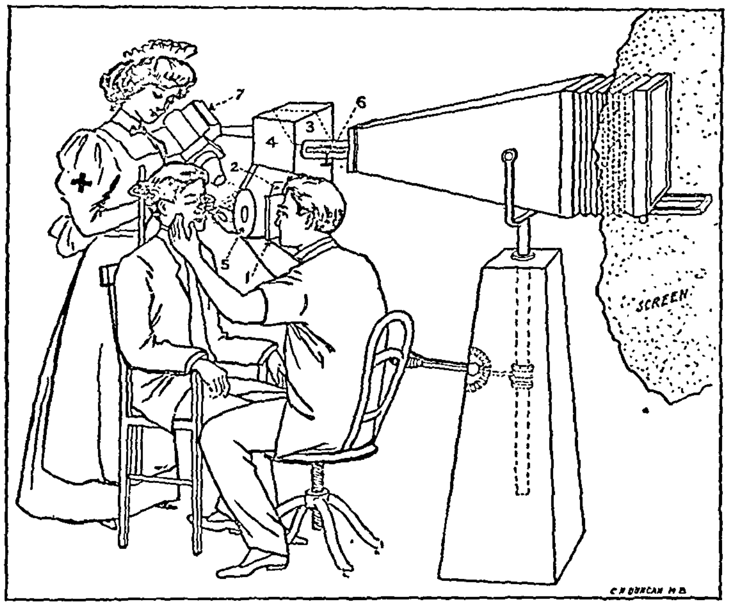
Visiting Surgeon, Volunteers St. Gregory's Hospital
NEW YORK

Up to the present time provision for demonstrating operations in the cavities of the body has not been made. The student of medicine has been unable to witness an operation, for example, in the nose. Necessarily he has had to be content with a description of the conditions the surgeon finds present in the nose and of what he is doing.

There is practically but one line of vision entering small cavities of the body, and this necessarily must be occupied by the eye of the operator. It is proposed in the apparatus here described to give a reflected view or image of operations in the cavities of the body as seen from the position occupied by the eye of the surgeon, and to provide that view to a large number of visitors so that each may see the minute details of the various steps of the operation as it progresses.



Cavity photo-projectoscope; 1, surface mirror with opening ⅜ of an inch in diameter, through which surgeon looks into cavity; 2, 3, 4, mirrors taking up image from first mirror; 5, concave reflector with two-inch hole in center, reflecting rays from arc-light into cavity; 6, lens of camera receiving image from fourth mirror; 7, arc-light sending rays on reflector (5), to be reflected into cavity.

To accomplish this I employ a reflector, four plano mirrors, and a large camera. The reflector (marked 5 on the illustration) is concave and is so adjusted that it picks up the rays from an arc-light (7) and reflects them into the cavity on which operation is to be performed. Its function and shape are similar to those of the ordinary head-mirror. In the center of this reflector is an opening about two inches in diameter. Behind this is a system of plano mirrors rigidly secured in a receptacle or box; these reflect the seat of the operation into a large camera, the ground glass of which is in an opening in the wall separating the operating-room from the amphitheater and elevated before the eyes of the assembled students or visitors. The first mirror is placed vertically, behind the opening in the center of the reflector, and at an angle of 45 degrees with the line of vision. In this is an opening three-eighths of an inch in diameter, through which the surgeon looks into the cavity.

The image from the seat of operation, coming through the two-inch opening in the reflector, is taken up by the first mirror and, in turn, reflected by the other mirrors into the lens of the camera and then projected on to the ground glass or translucent membrane. The mirrors are so arranged that the image or reflection of the seat of operation is not inverted or transposed on the ground glass or translucent membrane.

The reflection or image on the screen may be enlarged to any diameter the surgeon may desire. The mirrors, being surface mirrors, absorb little or no light or color, so that the various tissues encountered are seen as they appear to the surgeon. The minute details of the deeper tissues are clearly and distinctly seen on the screen, as crypts in the tonsils, blood-vessels of the uvula, etc.

The figure 6 on the illustration designates the lens of the camera. The rays from the operating-field are transmitted by the plano mirrors without refraction into the lens, where they are focused on the vertical ground glass. A universal focus lens keeps the field of operation always sharp and well defined.

The observers, in a darkened room, are separated from the operator and patient by a partition of dark curtains or screens. In this apartment a large number of visitors can secure a view of every step of the operation as it progresses. The apparatus does not interfere with the surgeon and but little practice is needed to operate with it as freely as with the ordinary head-mirror.

The intended uses and advantages of this apparatus may be summed up thus:

It provides a body of visitors with the same view of an operation in the cavities of the body as that of the surgeon, so that the visitors see directly in the line of vision with that of the surgeon.

It separates the visitors from the surgeon and his staff completely, thus eliminating the danger of contaminating the wound with dust from street clothing.

The apparatus eliminates distraction to the operator by the going and coming of visitors and distraction of the visitors' attention from the operation itself.

It separates the patient from the student body, thus obviating embarrassment that now often attends an operation or examination of the cavities of the body by the number of students who are in attendance to witness it. The patient need not know that a single student or visitor has the operation or examination under observation while it is progressing.

The apparatus is found to reflect accurately all objects on which it is focused, showing the minutest details as well as the color of the parts operated. Photographs may be taken of any and of all steps of the operation, or moving pictures of the operation may be secured by attaching a moving-picture machine to the apparatus. By this means an operation may be reproduced again and again for teaching purposes in medical colleges and in medical society meetings.

Arranged on the plan of a mutoscope, such a moving picture can be studied at leisure in a doctor's office, where, by means of it, he can have a particular surgeon perform a particular operation for him over and over, until he is thoroughly familiar with its details. Thus the technic of our master surgeons can be studied at every clinic and preserved for future generations.

The apparatus lends itself as well to operations on the rectum and vagina as to those on the nose, throat and ear.

233 Lexington Avenue.

# EPIDEMIC POLIOMYELITIS IN MONKEYS

## A MODE OF SPONTANEOUS INFECTION *

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NEW YORK

In our previous communications[1] on experimental poliomyelitis, we have left entirely undiscussed the manner in which the virus of epidemic poliomyelitis enters and leaves the human body, points which we propose to discuss in the present note. Our studies having supplied the basic fact of the nature of the virus,[2] it became possible to attack the question of the mode of transmission of the spontaneous disease. That epidemic poliomyelitis is an infectious disease has long been suspected, but that it is also a highly contagious one is far less generally admitted. And yet the studies on its epidemiology by Wickman[3] lend considerable support to the latter view.

In the first place, we wish to draw attention to the frequently observed fact that in point of distribution epidemic poliomyelitis resembles epidemic cerebrospinal meningitis. The two diseases, indeed, present, in this respect, such close similarities that they have often been confounded with each other. The chief and striking difference between them relates to the seasonal prevalence, which for epidemic poliomyelitis is midsummer, and for epidemic cerebrospinal meningitis, late winter or early spring. Furthermore, the two diseases occur by preference in the same age groups, being most frequent in infants and young children, although not sparing older children and adults, and they present about the same ratio of attack. In the majority of instances a single case appears in a family or home, but often two cases and less often three and more cases appear. The relation between the grouped cases in a house or locality has, in respect to both diseases, been made out only recently by finding in the instance of cerebrospinal meningitis definite diplococcus-carriers, and in poliomyelitis by discovering abortive cases which would seem to act in the manner of microbe-carriers.[3]

It is held that *Diplococcus intracellularis* passes into the cerebrospinal membranes by way of the lymphatic connections existing between them and the nasopharyngeal mucous membrane. It is difficult, if not impossible, to establish, in human beings, that the diplococcus passes from the membranes, by a reverse lymph-current, into the nasopharynx. And yet such a migration is not only highly probable, but would most readily and satisfactorily explain the intracellularis infection of these mucous membranes, which occurs in epidemic cerebrospinal meningitis. In the monkey,[4] infected with *Diplococcus intracellularis* by injection of cultures into the lumbar spinal canal, the migration into the nasopharynx of the diplococcus, contained in leucocytes and free also, has been followed with the microscope. So that the nasopharynx may be viewed both as the site of escape and of infection of *Diplococcus intracellularis* in man.

We have studied the mucous membrane of the nasopharynx with reference to the virus of poliomyelitis. The entire mucosa of these parts, in monkeys recently paralyzed, has been excised, rubbed up with quartz sand, pressed through a bacteria-tight Berkefeld filter, and injected in the usual manner into the brain of monkeys. By employing this method, we have been able to produce paralysis and thus to prove that the mucous membrane contains the virus of poliomyelitis. We have also found that when the virus is injected into the spinal canal by lumbar puncture it sets up the disease and causes the characteristic paralysis. The cerebrospinal fluid removed from monkeys at the onset of paralysis is altered: it contains an excess of proteid and lymphocytes and coagulates spontaneously. Paralysis also follows the inoculation of this fluid into the brain.

The experimental results show that a path of elimination of the virus of poliomyelitis is by way of the nasopharyngeal mucosa and indicate that the same path may be traversed in the course of infection. Hence it would seem desirable, at the present stage of our knowledge, to deal prophylactically with epidemic poliomyelitis, as with epidemic cerebrospinal meningitis, by disinfecting and destroying the secretions of the nasal and buccal cavities.[5] The action of disinfecting agents on the virus of poliomyelitis is being studied.

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# *Therapeutics*

## A PLEA FOR CAREFUL THERAPEUTIC RECOMMENDATIONS

This is the age of careful medical journalism, in which, in the best medical journals, editorials are written by experts; original articles are carefully passed on before their acceptance; medical news reports are carefully compiled and authenticated; and true abstracts are made of the best articles appearing in other journals. Nevertheless, the departments devoted to therapeutics and prescriptions appear to be unedited, and often represent material that is medieval.

It seems absolutely inexcusable to perpetuate some useless and ancient prescription because it was advised by an eminent man. It seems a serious mistake for a first-class home journal to copy a prescription from a foreign journal without criticising the useless and worthless ingredients that it often contains, to say nothing of the impossibility of obtaining some of its ingredients in this country.

Some of the best physicians of Europe are prone to polypharmacy. America to-day is leading the world in the medicinal management and treatment of diseased conditions. The best clinicians use but few drugs, and these are carefully selected and given to accomplish the physiologic activities for which they are administered. There is no country that is taking more care to administer a drug in the most efficient, most pleasant, and most agreeable manner possible, than is America. Let other countries, then, copy our treatment of disease while we publish, discuss and consider a European management of a disease, but let us not accept their mixtures, the many ingredients of which cloud the activity and utility of the very drug which they intend to laud.

It makes no difference who writes the prescription, whether it is the greatest or the least man in the country. If the treatment is worth considering and copying from journal to journal, and the menstruum ordered for the drug consists of two or more syrups, one or more tinctures for taste, and one or more aromatic or pleasant tasted waters, such a prescription should be cut down or modified by the copying journal to a sensible basis.

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* From the Laboratories of the Rockefeller Institute for Medical Research, New York.

[1] Flexner and Lewis: THE JOURNAL A. M. A., 1909, liii, 1639; 1909, liii, 1913; 1909, liii, 2095; 1910, liv, 45.

[2] Landsteiner and Levaditi independently ascertained the filterability of the virus. Compt. rend. Soc. de biol., 1909, lxviii, 592.

[3] Wickman: Beiträge zur Kenntniss der Heine-Medinschen Krankheit, Berlin, 1907.

[4] Flexner: Jour. Exper. Med., 1907, ix, 142.

[5] Levaditi and Landsteiner (Compt. rend. de Soc. de biol., 1909, lxvii, 787) found the salivary glands to contain the virus.

This is no parody on prescription writing. It is a condition easily discovered by any medical reader. Even text-books perpetuate a combination of simples in the administration of a single active drug, and some such prescriptions have been perpetuated for years. If one will carefully analyze proprietary mixtures for specific purposes, it will be found that there is one, perhaps there are two, active ingredients that can be guaranteed to do the work required. The rest of the combination is a mass of mystery to sell the particular proprietary preparation. The same results could be obtained by any prescriber, if he ordered the well-known active ingredient separately, without its mysterious combination.

It is time to call a stop to such therapeutic nonsense. In the first place, the administration of syrupy sweets rarely makes a disagreeable drug taste better. These sweets perpetuate the disagreeable taste a little longer, and a lot of medicated sugar is put into the stomach, when perhaps the same individual, especially a child, has been forbidden to have a piece of clean candy. If the medicine is to be taken frequently, as cough mixtures are generally ordered, the stomach is soon upset by such medication.

As illustrations of the necessity for carefully editing therapeutic recommendations the following are examples:

A German journal published an article recommending the administration of beechwood sawdust in bread for the treatment of chronic constipation. This was copied by a French journal and again copied by an American journal, and the end is certainly not yet. When such treatment is compared to the administration of agar-agar, the absurdity is not even worthy of discussion.

A French journal sagely advises (and this is copied into our own journals) for the rheumatic pains of influenza (no other kinds of muscle pains evidently) the following liniment:

Salicylic acid.
Methyl salicylate.
Oil of eucalyptus.
Oil of sage.
Oil of theobroma.
Camphorated oil.
Spirit of juniper.

The exact value of a fluidram of oil of eucalyptus and 14 minims of oil of sage (the quantities recommended) in something more than a five-ounce liniment is certainly not evident. Whether the cacao butter (oil of theobroma) would remain liquid in this mixture at ordinary temperatures is a question.

One of our journals copies from another journal an eminent man's prescription for the treatment of influenza. He recommends a capsule, which, with other ingredients, contains 1/60 of a grain of strychnin sulphate, which is to be administered every two hours. This carries with it no limit to the number of times such a dose should be given at this frequency. In ten hours six doses would have been taken, which would mean that 1/10 of a grain of strychnin would have been administered. The necessity for 1/10 of a grain of strychnin in ten hours is certainly rare in a simple affair like influenza. Probably the physician who recommended this prescription gave definite directions how soon this frequency of administration should be stopped.

A physician recently writing in one of our journals urges as a tonic in rose cold and hay fever a mixture of alkaloids which are combined with extract of taraxacum and then administered in capsules. Does anyone for one moment believe that this taraxacum has anything whatsoever to do with any good that may come from the rest of the treatment? Taraxacum is nothing but a bitter, and when administered in capsules loses even that value; and yet this simple (quinin, iron, arsenic, strychnin) prescription has been copied into another American journal without the use of editorial scissors.

A French journal tells how fats and oils may be given to a diabetic subject by means of an emulsion of cod-liver oil with "cherry laurel water, orange flower water, Irish moss, oil of bitter almond, distilled water, and saccharin." Or even "freshly prepared castile soap may be added." This suggestion has been copied. It is not necessary to discuss the value or necessity or the ingredients in it.

Two French journals, one copying from the other, advise that gastric troubles of genital origin (especially in girls at puberty) may be treated in other ways, but the physician quoted prefers to give such patients a "decoction of white condurango bark," to which shall be added "syrup of gentian." Condurango, once used in cancer and syphilis, is probably rarely now used in the United States. The syrup of gentian is not official. This recommendation has appeared in one of our journals.

In a recent journal, and one of the best journals in this country, appeared an abstract from a lecture by Professor Robin, of France. The professor evidently claimed that there are some conditions in which a milk diet must be given, and in which the amount administered should be run up to a gallon of milk in twenty-four hours. He claimed that some patients imagined that they had an intolerance for milk, and others might have a real intolerance, and well they might. Such treatment is inexcusable from almost any standpoint. There are but few people who, if they are sufficiently diseased to require an absolute milk diet, could stand such an enormous amount of it.

To enable these poor patients to digest or acquire a tolerance for this milk, Professor Robin advised, if there was no vomiting, 3 drops of the following mixture, taken before each dose of milk (and the dose of milk should be gradually worked up from 10 to 26 ounces, administered every three hours, from 7 a. m. to 10 p. m.):

Solanin.
Dilute sulphuric acid.
Picrotoxin.
Hydrochlorid of morphin.
Hydrochlorid of cocain.
Sulphate of atropin.
Ergotin.
Cherry laurel water.

It would be rather difficult to figure out (and it is entirely unimportant, hence the amounts of the ingredients are not given) exactly how much of these strong alkaloids 3 drops would contain. If the dose was sufficient to cause any physiologic action whatsoever, it would seem to be inexcusable to administer such a combination of strong alkaloids to make a patient crave for a gallon of milk a day. On the other hand, if the dose is so minute as to have psychologic effect only, in other words, an autosuggestion that they will long for the milk, it seems too bad to waste such active drugs for such an insignificant object, when 1/50 of a grain tablet of quinin sulphate, dissolved on the tongue, will have the same psychologic effect.

If vomiting is present, Professor Robin advises 3 drops of the following mixture before each administration of milk:

Picrotoxin.
Alcohol.
Hydrochlorid of morphin.
Sulphate of atropin.
Ergotin.
Cherry laurel water.

The same discussion holds true of this mixture as of the one above. It is unnecessary to discuss the advisability of administering picrotoxin and solanin internally.

After each dose of milk the patient must take a tablespoonful of elixir of pepsin, or 0.50 gram (7½ grains) of straight pepsin.

After the first, third, and fifth doses of milk the patient is to receive a powder consisting of:

Calcined magnesia.
Sodium bicarbonate.
Pulverized sugar.
Prepared chalk.

What would this combination of alkalies do to the activity of the pepsin which was administered, not only after the second, fourth, and sixth doses of milk, but also after the first, third, and fifth?

To progress; if there is flatulence and meteorism, the patient takes with the second, fourth, and sixth doses of milk a tablespoonful of the following:

Ammonium fluorid, 3 grains.
Distilled water, 10 ounces.
Mix and make a mixture.

This is primarily incorrect, as ammonium fluorid is very soluble in water, and therefore makes no "mixture," but makes a solution.

It would be hard to find in medicinal, pharmacologic, or therapeutic books this salt even mentioned. Of course it is not official. The United States Dispensatory and the National Dispensatory do not mention it. It is a chemical, "very unstable, forming colorless crystals, of a sharp, saline taste, readily soluble in water, and corroding glass like hydrofluoric acid" (Foster's Dictionary). Merck says it must be kept in gutta percha bottles, and is used mostly as a reagent, and in the arts as an etcher of glass. Merck also states that it has been used in hypertrophy of the spleen and in goiter, in from 5 to 20-minim doses of a 0.75 per cent. solution.

This is, then, a nice sort of a drug to advise for use in simple flatulence.

To proceed, Robin states: "In case of pain, cramp, a burning feeling, eructation, twitching, oppression, heartburn, or any painful sensation whatever affecting the stomach, one of the following powders, mixed with water, is to be administered immediately:"

Calcined magnesia.
Sodium bicarbonate.
White sugar.
Codein.
Precipitated chalk.
Bismuth subnitrate.

Certainly codein sulphate is more soluble and more active than codein. In the next place the addition of sugar to the prescription, for burning in the stomach, would seem a mistake. If this preparation is to be added to the one above, *i. e.*, to be administered after the first, third, and fifth doses of milk, it would seem as though the amount of alkali in the stomach would be over-sufficient, although the dose advised is small.

The next advice is, if the patient has diarrhea, that he is to take, after each dose of milk, a cupful of infusion of 20 grains of wild strawberry roots. Of course, this is perfectly easy to obtain, especially during the late New England unpleasantness. If this is not enough, he must take a "bolus" of the following after each dose of milk:

Diascordium.
Bismuth subnitrate. } Each one dram.
Make 16 pills.

The Pharmacopeia and the United States Dispensatory do not recognize diascordium. Diascordium, according to Foster's Dictionary, is an electuary recognized in the French Pharmacopeia, and is "made by evaporating 130 parts of honey of roses to 100 parts, adding one part of extract of opium dissolved in 20 of Spanish white wine, and then little by little adding 6 parts of dried scordium leaves, 2 each of petals of red roses, root of polygonum bistorta, gentian, tormentilla and seeds of berberis vulgaris, 1 each of ginger and piper longum, 4 of Ceylon cinnamon, 2 each of origanum dictamus, benzoin, galbanum, and gum arabic, and 8 of powdered Armenian bole. Each gram (15 grains) contains 0.006 gram (1/10 grain) of opium."

This is certainly returning to medieval multiple mixtures, such as the old "electuary of roses" of England, the weapon ointments, and the antidote of Mithridates.

Another recommendation of Professor Robin, also copied in this country, unedited, is a prescription for "bronchitis with violent cough," and is as follows:

Bromoform.
Tincture of bryony.
Tincture of grindelia robusta.
Tincture of nux vomica.
Tincture of hyoscyamus.
Alcohol.
Syrup of opium.
Syrup of bitter orange peel.

The syrup of opium is not official, and therefore the strength of this important preparation is indefinite. The value of this mixture of strong drugs and its behavior in the stomach is uncertain. Probably no one will attempt to use this combination.

Another specimen of this Professor's recommendations has been copied into this country, and is as follows:

Pyramidon.
Ammonium bromid.
Ammonium iodid.
Cocain hydrochlorid.
Spartein sulphate.
Caffein valerate.
Syrup of bitter orange peel.

The preparation is recommended as effective in all forms of neuralgia. Just what this particular mixture would do chemically when combined, and physiologically when administered, is certainly a question of doubt. The least that can be said is that cocaine, even in small doses, administered internally, in neuralgic conditions is without excuse. Neuralgic pain is very likely to be repeated, and the danger of forming a cocain habit must never be forgotten.

Will the journal which published Professor Robin's lecture on milk diet please forgive this criticism? It is not believed for one moment that this article was supervised. It would seem that a journal had the right to believe that advice offered by a man of Professor Robin's standing would be above criticism. Unfortunately, such is not the case.

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 12, 1910

## PERNICIOUS VOMITING OF PREGNANCY

There is no little satisfaction in observing the amount of substantial investigation on the toxemias of pregnancy that has been accomplished by Americans. Probably this is, in part, due to the fact that the most useful methods of quantitative urinalysis, on which these investigations largely depend, have been devised in this country by Folin, for it is the usual history of research that new methods are the starting point of advances in knowledge. As is to be expected, the results of the various investigators, and particularly the conclusions drawn from their results, have not been entirely in agreement. In a critical review of the recorded work on the subject of pernicious vomiting of pregnancy, to which are added some new observations, F. P. Underhill[1] analyzes clearly the existing situation and reaches conclusions which may serve to put the entire matter on a more substantial basis than it has heretofore had.

The first application of the newer analytical methods to the study of the urine in this condition was made by Stone, who found evidence which suggested that the injury to the liver cells found in this disorder resulted in defective nitrogenous metabolism, so that higher nitrogenous compounds are eliminated in place of a part of the urea. Williams found that different types of pernicious vomiting may be recognized, namely, neurotic, reflex and toxemic; and that only in the last of these three types are marked urinary changes present. Here the proportion of the urinary nitrogen which is excreted in the form of ammonia is increased in proportion to the severity of the condition, and Williams considered that this ammonia ratio might be a proper guide to management of cases of pernicious vomiting. Ewing and Wolf obtained results agreeing in part with both Stone and Williams; that is, they found a high proportion of nitrogen in more complex forms than urea, usually excessive ammonia, and consequently a low proportion of urea. These changes they ascribed, as Stone had done, to the hepatic lesions.

Underhill is of the opinion that the urinary changes observed in this condition can all be accounted for by the starvation of the patients, and that they are not produced by the hepatic lesions and are not indicative of the pathogenesis of the disease. Starvation, as is well known, leads to marked changes in the nitrogenous constituents of the urine, which are to be ascribed, in part, to the fact that the starving organism is obliged to utilize its own proteins and fats in place of the carbohydrates from which most of the energy is obtained under normal conditions. As a result of the excessive fat destruction, and perhaps also from the protein catabolism, excretion of organic acids with consequent high ammonia ratio in the urine occurs. So long as the supply of glycogen in the tissues is not exhausted, or is being made up by a reasonable amount of carbohydrate in the food, there are no marked changes in the urine, according to Underhill. Therefore, he contends, the pathologic condition which underlies the vomiting cannot be responsible for alterations in the urinary nitrogen, since these are not present in cases with severe vomiting, provided a reasonable quantity of food is retained. Extensive changes in the liver, at least in experimental animals, do not ordinarily cause observable deficiency in urea formation, so great a factor of safety has the liver.

On the basis of Underhill's views the logical treatment of pernicious vomiting should include the administration of carbohydrates, which can probably be done best by the employment of enemas of dextrose solution by the Murphy drop method; it being appreciated that feeding in these cases merely relieves the starvation and not the underlying cause of the vomiting. This suggestion is entirely in harmony with the newer ideas accepted by all close students of metabolism, that in emergencies the body usually has an abundant supply of protein to furnish the small amount of nitrogen that is absolutely necessary for cellular nutrition, but that to furnish heat and energy large supplies of carbohydrates are necessary, and these must come from outside after any considerable drain on the tissue glycogen; albuminous nutritive fluids are not so valuable in inanition as physicians have been taught to believe, while carbohydrate demands have been neglected.

It is unfortunate that Underhill and Rand have not a larger number of clinical observations to support the views advanced in their valuable paper, since these views seem well grounded and need only more abundant clinical evidence to establish them. This evidence will undoubtedly be brought forward soon, under the added stimulus of this new hypothesis, and whether it is confirmed or not progress will be made. The therapeutic suggestions are certainly well founded and should be given a thorough trial.

## MEDICINE AND SOCIOLOGY

It is often said that physicians do not use adequately the opportunities for the discussion of the sociologic data that must necessarily pass under their eyes; and the objection has a certain amount of truth. Physicians are too busy as a rule to be able to study out the significance of sociologic details that come to them. Moreover, they are unfamiliar with the methods of sociology, and would find it too difficult to apply the principles of the sister science to the data they have. Dr. Lawrence F. Flick, director of the Phipps Institute for the Study and Prevention of Tuberculosis, however, has made in his annual report[1] a distinct contribution both to clinical medicine and to sociology. From this point of view there is probably no more satisfactory paper in recent medical literature.

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[1] Underhill, F. P., and Rand, R. F.: Arch. Int. Med., 1910, v, 61.

Some of the features of the report are of general interest. Dr. Flick has, for instance, collated the statistics of the birth-places and length of residence in America of all foreign patients who came for treatment. The average period of residence in America of over three hundred of these was nearly twelve years and a half. About 20 per cent. of them had been less than five years in the country when they applied for treatment; over 70 per cent. had been here more than this length of time. Some of them brought the disease with them, but most of them acquired the disease in the infected houses into which they moved on arriving in this country. This is particularly true of the Russian immigrants, who are compelled to go into the most insanitary and undesirable houses. The Phipps Institute statistics on the change of residence of consumptives show that the houses occupied by consumptives frequently change tenants. Their sanitary condition is exceedingly bad. They not only spread contagion, but stimulate development of the disease in those who have it. Dr. Flick's suggestion for the sociologic prophylaxis of consumption in these cases is that a change of tenants should not be allowed in such houses until a clean bill of health is obtained for them.

The predominance of male over female mortality from tuberculosis has been noted at the Phipps Institute and is interestingly discussed. In all countries where there has been a reduction in the death-rate from tuberculosis, this reduction has been more marked among females than among males. Dr. Flick suggests that one reason for this is undoubtedly the greater mortality from tuberculosis recognized to exist everywhere among tobacco users and alcoholics, for smoking and drinking are largely male vices. The predisposing influence of hard labor both on the acquisition of the disease and its persistence tells against males. Another factor favorable to women is their greater cleanliness. They do not reinfect themselves; besides, women take more kindly to the modern ideas of prevention of tuberculosis. One reason, however, for the apparently greater mortality from tuberculosis among adult males than among adult females is the fact that under twenty-one, females are less capable of resisting the disease; at this age more of them succumb than of males. This fact vitiates the statistics of later life somewhat.

The relation of tuberculosis to age is of no less interest than its relation to sex. The mortality and morbidity of tuberculosis are low under the age of ten years—that is, during the milk-drinking period of human life. Dr. Flick thinks that if milk were a strong causative factor, tuberculosis would be less frequent in the age after thirty, when milk is seldom used as food. We are not sure that this is a valid argument, since, as is well known, tuberculosis may remain latent for an indefinite period after a person is infected, to become active only when the organism is subjected to stress. The fact that the mortality and morbidity from tuberculosis are low in infancy—that is, during the sheltered and protected age—does not seem conclusive proof that infection is correspondingly infrequent during that period.

Occupations predispose very markedly to tuberculosis. Those who work inside for long hours and low wages that afford poor nourishment contract the disease easily. Insufficiently nourished persons who work hard outside, however, also have a high morbidity. The dusty occupations bring with them more cases than any others.

The statistics of many places seem to show that more married than single persons suffer from tuberculosis. Some believe that this is because life is as a rule more strenuous for married persons, their worries are more frequent, and their resistive vitality is less. Dr. Flick's discussion of the subject shows that there is a fallacy beneath this conclusion, since the great majority of the unmarried are under the age of twenty, while the married state is coincident with the age periods in which tuberculosis is most frequent and which carry the burden of the cumulative influence of the hardships, deprivations, and sorrows of advanced years.

Another interesting question is that of the resistive vitality of people of different complexions to the inroads of tuberculosis. Negroes show the highest mortality. Next to them, however, are not, as might be expected, the brunettes, but the blondes of our population. This would seem to argue that possibly the darker-complexioned have more resistive vitality and are not disturbed as much as are the blondes by exposure to light. It has been argued that the light-complexioned Teutonic and Celtic peoples will not stand our sunny climate well, for they are unused to it. New York, Naples and Chicago are nearly on the same meridian—well south of the latitudes from which the fair-skinned immigrants come. That portion of America which corresponds in latitude to Germany and Great Britain is far north in the Dominion of Canada. The brunette peoples, moreover, are considered by some destined to outlast the blondes; and these statistics with regard to tuberculosis have been quoted as an added proof of this contention. The negro complicates the question, however, seeming to show that race means much and that the difference between blondes and brunettes in mortality is but slight. Of course, in some instances, differences in the mortality and morbidity of various peoples may be due to different national habits of living, and not to differences in the racial constitutions. Statistics can prove little in regard to differences in racial constitution unless it be shown at the same time that the subjects of the statistics, race for race, live under approximately the same conditions.

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[1] Flick, Lawrence F.: The Clinical and Sociologic Aspects of the Year's Work, Fifth Annual Report of The Phipps Institute for The Study and Prevention of Tuberculosis (Philadelphia). 1909.

This whole field is almost unbroken, and a paper which suggests fruitful subjects of study therein is valuable. To those who want to gain an idea of the present sociologic importance of our most fatal disease we commend this article of Dr. Flick.

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## AN ANTIVIVISECTION LEADER

Widely heralded as a "champion of mercy," Stephen Coleridge, the most notorious of England's antivivisectionists, arrives in New York this week. He comes to cheer his admirers and followers in their struggle to check the progress of medicine. To this end he is scheduled to address meetings in New York, Philadelphia, Baltimore and Washington. As a specimen of his class he is worth examining.

Son of the late Lord Chief Justice of England, fluent, well educated, plausible, Mr. Coleridge might be expected to display a judicial mind, scholarly qualities, and a scrupulous regard for justice and truth. He might naturally be expected to be acquainted with the procedures he so vigorously denounces; he might still more be expected to be above the cheap tricks used by persons less favored with opportunities to learn good manners and fair play. Unfortunately, performance no longer leaves room for expectation in Mr. Coleridge's case.

Mr. Coleridge has testified that he has never seen an experiment on an animal; that he never wishes to see one; that he has never seen an animal after it was experimented on—indeed, that he is "wholly unacquainted with the thing from personal knowledge." Thus fully equipped with an impenetrable ignorance of what he opposes, this champion enters the fray.

A lurid imagination, an unbounded credulity and a facile tongue constitute his weapons. The first notable display of his skill at arms occurred when he attacked the good name of Professor Bayliss. Two hysterical women had written a grotesque extravaganza, entitled "The Shambles of Science." Mr. Coleridge, seeing in these absurd stories only the purest truth, on a public platform named the physiologist as the perpetrator of the cruelties described. This little tilt cost Mr. Coleridge $10,000 for slander and $15,000 for the expenses of the trial.

His ready faith in the lady romancers he refuses to extend to his opponents. Indeed, instead of trusting truth-seekers to tell the truth, he ascribes to them his own fine disregard for veracity. "These experimenters," he has exclaimed, "have the greatest contempt for the act of Parliament. They would deny a breach of this act just as I should deny a breach of the motor car act. I drive a motor car, and when I go beyond the speed limit, and a policeman asks me, I say, 'No, I'm not going beyond the speed limit.'" This happy illustration shows typically Mr. Coleridge's readiness in adapting means to ends.

"Baseless charges," "misrepresentation of evidence," "wrongly alleged," "deceptive and misleading," "contrary to fact," "untrue"—such are the characterizations of Mr. Coleridge's statements by the leaders of medicine in England in their testimony before the Royal Commission on Vivisection. Here is a sample of his methods: He asked the librarian of the British Museum to suggest a suitable translator for an instrument catalogue published in Germany. The translation appeared blazoned with the name of the translator, "Nominated at the request of the National Antivivisection Society by the Librarian of the British Museum." The librarian protested against this "unwarranted abuse of a mere act of courtesy," this underhanded means of giving "an air of respectability to a partisan pamphlet," and demanded the withdrawal of the objectionable title-page. The "champion of mercy" was unable to understand that there was a question of honorable conduct involved and refused to comply.

To complacent ignorance and malicious imagination must be added deliberate deceit. The translated catalogue, illustrating apparatus for holding animals, Mr. Coleridge sent broadcast to the ladies of England. In each catalogue a letter was enclosed, addressed "Dear Madam," and appealing in the following insinuating and suggestive manner: "I place it, therefore, in your hands, and leave it to exercise its influence on your heart. If it leads you to know, beyond the reach of gainsay, that pitifulness is a higher thing in the sight of God than knowledge thus obtained, you will send me your help, great or little, according to your means, that I may do what I can, as effectively as you make me able, to put an end to these unspeakable deeds, and I shall continue to be your and the poor animals' ever-faithful servant." In the catalogue not a word is found explaining that animals fastened in the apparatus are anesthetized. Indeed, "unspeakable deeds" can only suggest that animals sensitive to pain are bound down and dissected alive in horrible agony. And this evil and malignant implication has been accepted on all sides by impressionable and kind-hearted people as proof of the horrors of laboratories.

It is no wonder that the reckless untruth and the malevolent eagerness of Mr. Coleridge and his followers, who so grossly misrepresent the spirit of medical research, "have infected," as Mr. H. G. Wells has testified, "a whole fresh generation of London students with a bitter partisan contempt for the humanitarian effort that has so lamentably misconducted itself."

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## SCOPOLAMIN-MORPHIN ANESTHESIA IN LABOR

The method of producing surgical anesthesia by the injection of scopolamin and morphin was introduced in 1900 by Schneiderlein, and in 1902 Steinbückel used this method to annul the pain of labor. On account of its heavy death-roll—43 deaths in 6,000 cases (Avarffy), as well as for other reasons that cannot be discussed now, the method is yet on trial in surgery, and considerable difference of opinion obtains as to its value in obstetrics. An important contribution to the study of this form of anesthesia in surgery and in labor by Dr. Robert A. Hatcher, a member of the Council on Pharmacy and Chemistry, is published in this and the preceding issues of THE JOURNAL. His conclusions express what seems to be the present consensus of medical opinion on the use of these agents for the purposes named.

Scopolamin—or hyoscin—belongs in the atropin series and, to a certain extent, it resembles atropin in its peripheral action, but, unlike atropin, sometimes it causes drowsiness and eventually an overpowering desire to sleep. The sleep, which may last from five to eight hours, is followed by drowsiness. Morphin and scopolamin are strongly synergistic in producing narcosis, but the claims of Schneiderlein and other early advocates of the use of these drugs as to their antagonistic side actions do not seem to be borne out by a more careful observation of their physiologic action and by clinical experience. In obstetrics the usual initial dose is 0.0003 gram (about 1/100 grain) of the hydrobromid of scopolamin with 0.01 gram (about 1/6 grain) of morphin injected subcutaneously. In favorable cases this causes the patient to sleep between the pains, and, while the woman may be aroused by the pains and suffer more or less for the time being, yet there is no recollection of the pains afterward. If necessary to induce this state, the scopolamin may be repeated once or twice, but not the morphin, the indications being furnished by the mental condition of the patient, who should be maintained in such a state of amnesia that she does not remember what happened thirty or thirty-five minutes before.

Among the advocates may be mentioned Krönig, from whose clinic Gauss has reported 1,000 cases, and Beruti, 600 with good results, and Sir J. Holliday Croom,[1] who had a satisfactory experience in 62 cases of labor. Says Croom: "In the majority of patients labor was practically painless. Some suffered slight discomfort and others dozed during the intervals and complained of pain to a limited extent only when the uterine contractions were at their height. In the great majority of cases the patients fell into a profound slumber immediately on the completion of labor and awoke refreshed, with only hazy recollections of pains suffered." He regards scopolomorphinization as an efficient means of controlling the pain of labor and as practically safe. At the same time he acknowledges that the child often is sleepy, even deeply unconscious, and that one patient became violent; and that the method is unsuitable for a primipara with nervous temperament on account of the danger of the patient becoming violent.

Others emphasize more strongly these drawbacks of the method, notably Avarffy,[2] who condemns the practice without reserve, especially because of the dangers to the child from asphyxia and because of the occasional but non-predictable untoward effects in rendering the patient violent and unruly. He holds that the vaunted "twilight sleep" is the result of intoxication with a powerful agent whose effects cannot be controlled adequately and under whose influence labor proceeds abnormally in too large a proportion of the cases to warrant its general use. In support of his conclusions, Avarffy cites a number of statistical observations on cases studied by himself and others to the effect that amnesia, for instance, was noted in only about two-thirds of the cases, that labor pains seemed weakened in about one-third, that abdominal straining was weakened in about one-fourth. With respect to the child he gives in 1,607 cases from five different clinics 8.89 per cent. of asphyxia, 17.6 per cent. of oligopnea, and 0.49 per cent. of deaths. This seems to bear out the oft-repeated warning that to give morphin to a parturient woman is to endanger the life of the child. The method consequently increases the dangers to the child, and in view of this fact, as well as on account of other shortcomings, it can hardly be regarded in its present form as a safe means of controlling the pain of labor.

Even the most enthusiastic of the German advocates have warned of the danger of the indiscriminate use of the combination of two such dangerous drugs, insisting that the method should be employed only in institutions where any untoward effect may be guarded against.

## THE COMPENSATING ACUTENESS OF THE SENSES OF THE BLIND

It is a common belief, shared with the populace by some physicians, that the blind are compensated for their misfortune to some extent by a greater acuteness of the remaining senses. That this is probably not the case was shown by observations made by Kunz and Griesbach at the Mülhausen (Germany) Institution for the Blind. The results of these observations were given in substance by Dr. J. G. McKendrick, who has recently published[1] a communication from a blind man whose personal experience agrees with the results of the German observers. It may be admitted that the physical tests employed in modern experimental psychology fail to show any greater development of the remaining senses of the blind than of the same senses in normal individuals. Of course, these tests do not disprove the greater relative usefulness of the remaining senses of the blind, for, it should be remembered, such methods are limited in their scope to the physical senses. There may be just as much brain behind the four principal senses of a blind man as there is back of the five senses of a normal individual, and just as much capacity to use it, in many cases at least. What is lost by sight is made up, to a certain extent, by concentration on a narrower field. As Dr. McKendrick says in his first communication: "The effort of attention is superadded to the sensory impression. Impressions [illegible] ach the [illegible] ium of

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[1] Jour. Obst. and Gyn. Brit. Empire, 1909, xvi, 16.
[2] Gynæk. Rundschau, 1909, iii, 338.

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[1] McKendrick, J. G.: N [illegible] 11. F [illegible] 2, 19[illegible]

which we are usually unconscious, but they may be detected by an effort of attention. This was strongly pointed out by Helmholtz. The senses of the blind are not more acute than those of normal people, but the necessities of the case oblige the blind to pay attention to them." Practically, this amounts to about the same thing as an enhanced acuteness of the remaining senses; and it is this neglect of the element of more concentrated attention that would seem to involve an element of error in the interpretation of the physical tests of modern experimental psychology of which so much is made at the present time. Aside from the sense of sight, the difference between the blind and the seeing is mainly in the greater drafts which the former make on their perceptive capacity. The possibility of acquiring an increase of functional sensory capacity by use also suggests itself; but this is not one of the ruling theories at the present time.

## *Medical News*

### ARKANSAS

**Elections.**—At the annual meeting of Boone County Medical Society, held in Harrison, January 5, Dr. Alfred M. Hathcock was elected president; Dr. James H. Fowler, vice-president; Dr. Franklin B. Kirby, secretary, all of Harrison, and Dr. Hugh L. Routh, Batavia, treasurer.——Drew County Medical Society, at its annual meeting, elected Dr. William A. Brown, Monticello, president; Dr. Sidney Harris, Wilmar, vice-president, and Dr. Albert S. J. Collins, Monticello, secretary-treasurer.——At its annual meeting in Gentry, Benton County Medical Society elected Dr. Edgar E. Pickens, Rogers, president; Dr. Joseph T. Clegg, Siloam Springs, vice-president; Dr. James Fergus, Rogers, secretary-treasurer; Dr. Clint A. Rice, Gentry, delegate to the state society, and Dr. Joseph T. Clegg, Siloam Springs, alternate.——Faulkner County Medical Society has elected Dr. James W. DeJarnett, Guy, president; Dr. Joseph H. Downs, Vilonia, vice-president, and Dr. Joseph S. Westerfield, Conway, secretary-treasurer.——Yell County Medical Society, at its annual meeting held in Dardanelle, elected Dr. Samuel E. Miller president; Dr. James R. Linzy vice-president, and Dr. A. H. McKenzie secretary-treasurer (reelected), all of Dardanelle.——Lonoke County Medical Society has elected the following officers: President, Dr. Samuel A. Southall, Lonoke; vice-president, Dr. Oran D. Ward, England; secretary-treasurer, Dr. Forrest A. Corn, Lonoke; assistant secretary-treasurer, Dr. Samuel S. Beatty, England; delegate to the state society, Dr. Henry Thibault, Scott; alternate, Dr. Eugene A. Callahan, Carlisle, and censor, Dr. John F. Brewer, Kerrs.

### CALIFORNIA

**New Health Board Appointees.**—The mayor has appointed Drs. George L. Eaton and Thomas B. Roche, members of the board of health of San Francisco, and at a meeting of the board for organization Dr. Eaton was elected president.

**License Law Upheld.**—The town recorder of St. Helena has decided that the town license ordinance is valid and does not conflict with the statutes of the state, and that consequently Drs. Daniel E. Osborn, Frank C. Newton and J. H. O'Connor have been guilty of misdemeanor in practicing their profession without first having paid the local license tax.

**Personal.**—Dr. Robert D. Cohn, San Francisco, sued for $10,000 damages by Max Moses, who alleged that the oculist had been negligent, and that on this account he had lost his eyesight, was vindicated by a jury January 19. The specialists called by the plaintiff failed to substantiate his allegations and the jury promptly returned a verdict in favor of Dr. Cohn.

**Medical Society Meeting.**—Merced County Medical Society, at its annual meeting, held in Merced, January 18, elected the following officers: President, Dr. Edward S. O'Brien, Merced; vice-president, Dr. Walter E. Lilley, Merced; secretary, Dr. Ludwig H. Wolfsen, Merced; treasurer, Dr. Herbert DeLoss, Merced; delegate to the state society, Dr. Hjalmar Kylberg, Mariposa; alternate, Dr. Herbert DeLoss, Merced; and censors, Drs. Edward S. O'Brien and Curtis H. Castle, Merced, and Charles F. Wade, Los Banos.

**Hospital Notes.**—A charity hospital is to be erected in San Diego.——The Peninsula Hospital, Palo Alto, was formally opened January 3.——A permit has been issued by the Board of Public Works for the erection of the Children's Hospital and Training School for Nurses on California street to cost about $200,000. The central building and east wing are to be erected, leaving the west wing to be added when the financial condition of the hospital may warrant.——The work on the new hospital for Contra Costa county at Martinez, which is to cost $22,000, is to begin in the spring. Plans have been submitted and the contract has been awarded.

### COLORADO

**Fremont Physicians Elect.**—The Fremont County Medical Society, at its annual meeting, held in Florence, January 24, elected Dr. Raynor E. Holmes, Canon City, president; Dr. Leonidas E. Rupert, Florence, vice-president, and Dr. Royal C. Adkinson, Florence, secretary.

**Personal.**—Drs. George H. Stover and Edward Delehanty, Denver, who were operated on in St. Joseph's Hospital recently for appendicitis, are reported to be convalescent.——Dr. William H. Campbell, Pueblo, has been appointed county physician and state health officer for Pueblo county.——Dr. Mary E. Phelps, Canon City, sailed from San Francisco February 5 on a voyage around the world.

### CONNECTICUT

**Library Presented to Hospital.**—A medical library of nearly a thousand volumes was presented to Danbury Hospital, January 25, by Dr. W. C. Wile, and was accepted for the hospital association by its president, Mr. D. E. Loewe. The collection is to be known as the Wile library, and the room in which it is kept is to be the consulting and reference room of the staff of the hospital. The library is intended by the giver for the benefit of the staff.

**Alienists Meet.**—The Connecticut Society of Alienists, which was organized two years ago, held its annual meeting in New Haven, January 14. The following officers were elected: President, Dr. David W. McFarland, Greens Farm; secretary, Dr. Alvin D. Wadsworth, South Norwalk; treasurer, Dr. Frederick B. Ruland, Westport; members of executive committee, Drs. Henry M. Pollock of the State Hospital, Norwich; Henry R. Noble, superintendent of the State Hospital, Middletown; Charles W. Jackson, Watertown; Amos J. Givens, Stamford, and John L. Buel, Litchfield; Drs. Graeme M. Hammond and George A. Lawrence, New York City; Jacob M. Nolan, Westport; Franklin H. Mayberry, East Hartford; Thomas D. Crothers, Hartford; Frederick Powers, Westport; and James M. Brown, Westport, and Hon. James F. Walsh, Greenwich, Hon. Costello Lippit and Hon. Nelson J. Ayling, Norwich; Hon. Howard M. Hickox, Watertown; Hon. Michael C. Down, Stamford; Hon. M. J. Holman, Saybrook, and Hon. Daniel B. Bradley, Jr., Westport, were admitted to honorary membership.

**Medical Society Meetings.**—At the annual meeting of the Hartford Medical Society, January 3, the following officers were elected: President, Dr. Edward K. Root; vice-president, Dr. Marcus M. Johnson; secretary, Dr. Albert R. Keith; assistant-secretary, Dr. Edward A. Hotchkiss; treasurer, Dr. George K. Welch; librarian, Dr. Walter R. Steiner, and censors, Drs. John H. Rose, Charles S. Stern, and Thomas F. Kane. A portrait of the late Dr. Gurdon W. Russell was presented to the society by Mrs. Russell.——Bridgeport Medical Association, at its annual meeting, elected Dr. Frank W. Stevens, president; Dr. Edwards M. Smith, vice-president; Dr. George H. Warner, secretary; Dr. Daniel M. Driscoll, treasurer, and Dr. Eli B. Ives, curator.——Greenwich Medical Society, at its annual meeting, January 3, elected Dr. Frank T. Brooks, president; Dr. William Burke, vice-president, and Dr. T. J. Bergin, secretary-treasurer.——The Waterbury-Suffolk Medical Association, at its annual meeting, January 17, elected the following officers: President, Dr. Thomas J. Kilmartin, Waterbury; vice-president, Dr. John D. Freney, Waterbury; secretary, Dr. J. W. Fruin, and treasurer, Dr. Charles A. Monagan, Waterbury.

### FLORIDA

**Societies.**—At the annual meeting of the DeSoto County Medical Society, held in Arcadia recently, the following officers were elected: President, Dr. Murdock L. Crum; vice-president, Dr. Daniel L. McSwain, Arcadia; secretary, Dr.

John A. Simmons, Arcadia; treasurer, Dr. R. L. Cline, Arcadia, and censors, Drs. Daniel L. McSwain, Arcadia, J. B. Carter, Fort Ogden, and Young E. Wright, Wauchula.——The physicians of Columbia county met at Lake City recently and organized the Columbia County Medical Association, with the following officers: Dr. Abner J. P. Julian, president; Dr. Leonidas M. Anderson, vice-president; Dr. Roy E. Chalker, secretary, all of Lake City; and Drs. J. E. Garner, Warren B. Rush of Lake City, and Dr. Henry E. Parnell, Fort White, censors.——At a meeting held in St. Petersburg, January 14, the Pinellas Medical Association was organized with an initial membership of nine. The following officers were elected: President, Dr. John D. Peabody; vice-president, Dr. Frederick W. Wilcox; and secretary-treasurer, Dr. Louis H. Jones, all of St. Petersburg.

### GEORGIA

**Elections.**—Hall County Medical Society, at its annual meeting, held in Gainesville, elected the following officers: President, Dr. H. Latimer Rudolph, Gainesville; vice-president, Dr. Wylie C. Kennedy, Bellmont; secretary-treasurer, Dr. Edward T. Gibbs, Gainesville, and censors, Drs. John B. Rudolph, Gainesville, J. Charles Gower, Gainesville; and John D. Mauldin, New Holland.——Floyd County Medical Society, at its annual meeting, held in Rome, elected Dr. Levi P. Hammond, president; Dr. William P. Harbin, vice-president; Dr. William L. Funkhouser, secretary-treasurer; Drs. James C. Watts, Robert M. Harbin, and Robert H. Wicker, censors, and Dr. George B. Smith, delegate to the state association, all of Rome.——Muscogee County Medical Society at its annual meeting in Columbus, elected Dr. T. Neal Kitchens, president; Dr. Charles A. Dexter, vice-president; Dr. H. Stokes Monroe, secretary, and Dr. Benjamin W. Allen, treasurer.

### ILLINOIS

**Personal.**—Dr. Edgar P. Cook, Mendota, started for Europe February 7.——Dr. John F. Page, Eureka, returned from Europe January 21.——At the annual meeting of the State Board of Health, January 18, Dr. George W. Webster, Chicago, was reelected president for the ninth time, and Dr. James A. Egan, Springfield, was reelected secretary for the fourteenth time and treasurer for the fifth time.——Drs. George F. Butler and Leslie E. Mee have associated themselves together and established a laboratory at Wilmette for examination of secretions, specimens, etc.

#### Chicago

**Fined for Failing to Report Smallpox.**—Dr. John D. Craig, charged with failing to report a case of smallpox to the health department, and sued for $1,000, is said to have been found guilty and fined $25 and costs, February 2.

**Personal.**—Dr. and Mrs. Ralph E. Starkweather sailed for Europe February 5.——Dr. Emery Hill, Philadelphia, has established himself in practice with Dr. Cassius D. Westcott.——Dr. Edwin W. Knowles, formerly of South Chicago, has located at Gladstone, Mich.

**Resolutions Rescinded.**—At the February meeting of the Council of the Chicago Medical Society, held February 8, the resolutions regarding the American Medical Association, adopted at the January meeting and published in The Journal, January 29, page 382, were rescinded.

**Publicity to Aid Physicians.**—At the joint meeting of the Physicians and Press clubs of Chicago, February 4, Dr. William T. Belfield presided and Professor Shailer Matthews of the University of Chicago and Dr. Woods Hutchinson, New York City, made addresses. The latter made a strong appeal for the publicity of practice in medicine and the greatest single efforts in educating the public in sanitary and hygienic lines. Dr. Frank Billings narrated the professional history of the work done by the State Board of Charities and the State Charities Commission in the improvement of the charitable institutions of the state.

**Tuberculosis Institute Meets.**—The fourth annual meeting of the Chicago Tuberculosis Institute was held January 31. The announcement was made by Dr. Henry B. Favill that $7,000 had recently been given the building fund by Mrs. Keith Spalding, $1,400 to the Edwards Sanitarium by Mrs. Jesse Spalding, and $600 for the maintenance of a children's bed in the sanitarium by Elizabeth McCormack. The directors appropriated $600, the proceeds of the sale of Christmas stamps, to support a free bed for nurses afflicted with tuberculosis. The following directors were appointed: Drs. Henry B. Favill, Frank Billings, Ethan A. Gray, Nathan B. Sachs, Orville W. McMichael, John A. Robeson, and Edwin Robinson, Mr. David R. Forgan, Miss Laura Shedd and Mrs. Charles F. Spalding.

### IOWA

**Physicians' Building for Sioux City.**—A building is proposed in Sioux City, eight stories in height, to be devoted entirely to offices for physicians.

**State Hospital Needed.**—A movement has been started among physicians of the state by Dr. John W. Kime, Fort Dodge, for the establishment of a state hospital for patients in advanced stages of tuberculosis. Dr. Harry E. Kirschner, of the State Tuberculosis Sanatorium, Oakdale, is said to be heartily in favor of this project.

**Elections.**—The Iowa Clinical Surgical Society, at its annual meeting in Clinton, elected the following officers: President, Dr. Gilbert G. Cottam, Rock Rapids; vice-president, Dr. Robert Evans, Fort Dodge; secretary, Dr. Alanson M. Pond, Dubuque; and councilors, Drs. Prince E. Sawyer, Sioux City, Charles S. James, Centerville, John C. Hancock, Dubuque, and Donald Macrae, Council Bluffs.——Scott County Medical Society, at its annual meeting, January 12, elected Dr. George F. Harkness, president; Dr. Edward S. Bowman, vice-president; Dr. John V. Littig, secretary-treasurer; Edward F. Strohbehn, delegate to the state society; and Dr. George M. Middleton, alternate, all of Davenport.——At the annual meeting of Dubuque County Medical Society, January 11, the following officers were elected: President, Dr. Albert H. Blocklinger, Dubuque; vice-presidents, Drs. Charles Palen, Dubuque, and Charles A. Kearney, Farley; secretary, Dr. Mathias J. Moes, Dubuque; treasurer, Dr. John M. Walker, Dubuque; delegate to the state society, Dr. Clarence W. Mehlhop, Dubuque; alternate, Dr. James Alderson, Dubuque; librarian, Dr. Henry G. Langworthy, Dubuque; and censors, Drs. Isaac S. Bigelow, Dubuque, Harvey B. Gratiot and Frank W. Wieland, Dubuque.——At the annual meeting of Polk County Medical Society, held January 5, in Des Moines, Dr. Wilbur S. Conkling was elected president; Dr. Edward R. Posner, vice-president; Dr. James W. Osborn, secretary (reelected); Dr. Eli Grimes, treasurer; Dr. Andrew R. Amos, censor; and Dr. J. W. Osborn, delegate to the state society, all of Des Moines.

### KENTUCKY

**Personal.**—Dr. Haley P. Cartwright, Bowling Green, one of the oldest members of the Warren County Medical Society, in whose honor a meeting of the society was held January 17, was seized with an attack of angina pectoris, January 21. Dr. Cartwright and family left for Gatha, Fla., January 26, to spend the remainder of the winter.

**Elections.**—Jefferson County Medical Society, at its annual meeting in Louisville, elected the following officers: Dr. Ellis S. Allen, Louisville, president; Drs. Samuel D. Wetherby, Middletown, and Martin F. Coomes, Louisville, vice-presidents; Dr. Dunning S. Wilson, Louisville, secretary, and Dr. Curran Pope, Louisville, treasurer.——Fayette County Medical Society, at its annual meeting in Lexington, elected Dr. Julian T. McClymonds, president; Dr. James J. Gibson, vice-president; Dr. Robert J. Estill, secretary (reelected), and Dr. Benjamin L. Coleman, treasurer (reelected), all of Lexington.——Bourbon County Medical Society, at its annual meeting held in Paris, elected the following officers: President, Dr. Frank L. Lapsley; vice-presidents, Drs. John T. Brown and David B. Anderson; secretary-treasurer, Dr. Frank M. Faries; censors, Drs. Frank Fithian and William C. Ussery, all of Paris, and Dr. John A. Gilkey, North Middletown, and historian, Dr. Charles G. Daugherty, Paris.——Kenton-Campbell County Medical Association, at its annual meeting, held in Covington, elected Dr. C. W. McCollum, Erlanger, president; Dr. Wilford E. Senour, Bellevue, vice-president; Dr. Frederick A. Stine, Jr., Newport, secretary, and Dr. William W. Tarvin, Covington, treasurer.

### MARYLAND

**Appropriation Asked for Annapolis Hospital.**—An appropriation of $30,000 is asked for the completion and equipment of the Annapolis Emergency Hospital.

**Reports on Care of the Insane.**—The State Lunacy Commission, in its annual report, makes a strong plea for legislative appropriation for the amelioration of the condition of the insane. It declares that pauper insane are confined in "pest-houses, revolting and a disgrace to the state, and urges the abolition of darkness, foul-smelling air, idleness, solitary confinement, shackles, poor food, cruelty, and ignorance."——Dr. Edward N. Brush, superintendent of the Shepherd and Enoch Pratt Hospital for the Insane, reports that during last year there were under his care 133 men and 152 women. He regards as essential for the state care of the insane, the erection of a curative establishment, fully organized for their treatment; that this establishment be connected with the state institution where incurable patients may find occupation and recreation, and that the State Lunacy Commission be entrusted with the execution of this measure.——The State Lunacy Commission and Boards of State Institutions for the Insane have decided to ask the legislature for an appropriation of $600,000 for the state care of the insane. This amount will be apportioned between the present two state hospitals and the Maryland School for the Feeble-Minded, and will also leave a sufficient amount for the erection of an asylum for negroes in southern Maryland.

### Baltimore

**Personal.**—Dr. J. Whitridge Williams has resigned the directorship of the Johns Hopkins Hospital Dispensary and has been succeeded by Dr. Thomas McCrae.——Dr. Harry M. Wegefarth has moved to California.

**Adjunct Faculty Elect.**—The Society of the Adjunct Faculty, Department of Medicine, University of Maryland, has elected the following officers: President, Dr. Irving J. Spear; vice-president, Dr. Compton Riely; and secretary-treasurer, Dr. J. Holmes Smith, Jr.

**Charter Revision.**—Dr. William H. Welch, of the Charter Revision Commission, has submitted a report to the commission with the following recommendations: To unite the City Almshouse Hospital and the Infectious Disease Hospital so that aid can be supplied from one to the other in case of need; the health commissioner and president of the board of supervisors of city charities jointly to appoint the superintendent of the two institutions; the health commissioner to have authority at his discretion to remove patients suffering from tuberculosis to a municipal or other hospital exactly as he does now in case of other infectious diseases, and the inspection of groceries. The commission adopted the recommendations of Dr. Welch.

## MASSACHUSETTS

**New Clinic Opened.**—On January 10, an afternoon clinic for the free treatment of needy patients was opened at Harvard Medical School.

**Personal.**—Dr. Oscar C. DeWolf, formerly commissioner of health of Chicago, is reported to be critically ill with cerebral hemorrhage at his home in Huntington.——Dr. Charles Leeds, Chelsea, was thrown from his buggy recently in a runaway accident, fracturing three ribs.

**Medical Society Elections.**—At the adjourned annual meeting of Fitchburg Medical Club, January 11, Dr. John W. Stimson was elected president; Dr. Raymond C. Jones, vice-president; Dr. J. Everett Luscombe, secretary; and Dr. Curtis H. Jennings, treasurer.——The annual meeting of Hatherly Medical Society was held January 12 at Rockland, Dr. Oscar A. Bemis, Whitman, was elected president; Dr. Joseph Frame, Rockland, vice-president; and Dr. Charles Hammond, Hanover, secretary-treasurer.——The Association of Western Massachusetts Alumni of the Medical School of Vermont, held its annual meeting and banquet in Springfield, January 27, and elected the following officers: Dr. James M. Fay, Northampton, president; Dr. Vincent J. Irwin, Springfield, vice-president; Dr. Raymond A. Kinloch, Springfield, secretary-treasurer. The address of the evening was given by Dr. James N. Jenne, professor of materia medica of the University.

## MICHIGAN

**Change in Pardon Board.**—Dr. James F. Rumer, Davison, formerly state senator, has been appointed a member of the pardon board, vice Dr. Henry F. Thomas, Allegan, term expired.

**Tuberculosis Sanatoria.**—Work on the sanatorium of the Detroit Tuberculosis Association will be commenced this month. More than $22,000 have at present been received for the sanatorium fund and several individuals have offered to erect cottages. At a meeting of the trustees, Dr. Burt R. Shurly was elected vice-president, and Dr. Herbert M. Rich, secretary.——The tuberculosis shack at the State Hospital for the Insane, Kalamazoo, has been completed and will accommodate from fifteen to twenty patients.

**Medical Society Meetings.**—The executive council of the Michigan State Medical Society held its semi-annual session in Detroit, January 13, and elected Dr. Wilfred Haughey, Battle Creek, secretary and editor of the *State Medical Journal*, and Dr. George F. Inch, Kalamazoo, treasurer.——Sanilac County Medical Society, at its annual meeting in Sandusky, elected Dr. George S. Tweedie, president; Dr. John Campbell, Brown City, vice-president; Dr. James W. Scott, Sandusky, secretary-treasurer; Dr. Colin G. Robertson, Sandusky, delegate to the state society, and Dr. Reginald Smith, Carsonville, alternate.——Manistee County Medical Society, at its annual meeting in Manistee, elected Dr. Harlan MacMullan, Manistee, president; Dr. David A. Jamieson, Arcadia, vice-president; Dr. Jens A. Christenson, Manistee, secretary and delegate to the state society; Dr. Humphrey D. Robinson, Manistee, treasurer, and Dr. Harlen MacMullen, alternate.——Gogebic County Medical Society, at its annual meeting, elected Dr. John W. Whiteside, Ironwood, president; Dr. D. C. Pierpont, Ironwood, vice-president; Dr. George E. Moore, Ironwood, secretary-treasurer; Dr. E. H. Madajesky, Bessemer, delegate to the state society, and Dr. Lester O. Houghten, Ironwood, alternate.——At the annual meeting of Kent County Medical Society, held in Grand Rapids, the following officers were elected: Dr. Richard R. Smith, president; Dr. J. D. Brooks, vice-president; Dr. John D. Hastie, secretary; Dr. Aaron V. Wenger, treasurer (reelected); Drs. William J. Dubois, Aaron V. Warnshuis, and Collins H. Johnston, delegates to the state society, and Drs. J. D. Brooks, Alexander M. Campbell, and Mortimer E. Roberts, alternate, all of Grand Rapids.

## MINNESOTA

**Graduate Study.**—The *Minnesota Post-Graduate Medical* Society was organized at Glenwood, recently. Dr. James Crozier was elected president, and Dr. Carl A. Fjelstad secretary-treasurer.——A special program aiming to give a graduate course to Minneapolis physicians has been planned by the Hennepin County Medical Society.

**Elections.**—At the annual meeting of Goodhue County Medical Society in Cannon, January 7, Dr. Frank W. Dimmitt, Red Wing, was elected president; Dr. Alvah W. Jones, Red Wing, vice-president, and Dr. Alonzo T. Conley, Cannon Falls, secretary-treasurer.——At the annual meeting of the Park Region Medical Society, held in Fergus Falls, January 14, the following officers were elected: Dr. Jorgen G. Vigen, Fergus Falls, president; Drs. A. Mason Randall, Underwood, and Willard L. Burnap, Pelican Rapids, vice-presidents; Dr. Luther A. Davis, Dalton, secretary-treasurer.

## MISSOURI

**Sell Hospital.**—St. Francis Hospital, Cape Girardeau, has been sold by the Franciscan Sisters, and they ask the citizens to assist them in building a new hospital to cost about $65,000.

**Personal.**—Dr. W. L. Rhodes, Kansas City, has been appointed a member of the city board of health.——Dr. James D. Smith, Nelson, is reported to be seriously ill with pneumonia.——Dr. Kearan C. Cummins, Maryville, who was severely injured several weeks ago by falling from the roof of his porch, is reported to be rapidly improving.——Dr. Forest V. Keeling, Elsberry, was operated on at the Baptist Sanitarium, St. Louis, for appendicitis, January 24.

### St. Louis

**Oto-Laryngological Section.**—The Oto-Laryngological Section of the St. Louis Medical Society, at its meeting January 26, elected Dr. Greenfield Sluder, chairman; Dr. Fayette C. Ewing, vice-chairman, and Dr. Albert F. Koetter, secretary-treasurer.

**Decision Reversed.**—The supreme court has reversed the decision of the circuit court of St. Louis in the case of the students of Barnes Medical College against the State Board of Health for refusing to examine the class on the ground that the college was not in good standing as it had not met the requirements of the board for the minimum equipment of teaching. The supreme court remanded the case with instructions to quash the writ of mandamus against the board and dismiss the petition of the students. This decision establishes the legality of the board's action in promulgating rules for deciding on the reputability of medical colleges, and furthermore the responsibility of entering a college without first having satisfied himself that it is reputable, is placed on the student.

## NEW HAMPSHIRE

**Society Meetings.**—Sullivan County Medical Society, at its annual meeting, held in Claremont, January 15, elected the following officers: President, Dr. Edwin C. Fisher, Sunapee; vice-president, Dr. Fred P. Clagett, Newport; secretary, Dr. Emery M. Fitch, Claremont; treasurer, Dr. David M. Currier, Newport; censors, Drs. Albion S. Marden, Newport, Oscar C Young, Charlestown, and Henry C. Sanders, Claremont; and delegates to the state medical society, Drs. Emery M. Fitch and Samuel R. Upham, Claremont.——Dover Medical Society held its annual meeting and banquet January 3, and elected the following officers: Dr. Harry O. Chesley, president; Dr. Edward C. Batchelder, secretary-treasurer; and Dr. A. Noel Smith, auditor, all of Dover.——The Centre District and Merrimack County Medical Society, at its annual meeting, held in Concord, January 11, elected the following officers: President, Dr. Arthur K. Day, Concord; vice-president, Dr. Alexander A. Beaton, Franklin; secretary-treasurer, Dr. Pearl T. Haskell, Concord; delegates to the state society, Drs. George C. Blaisdell, Contoocook, and C. E. Butterfield, Suncook, and censors, Drs. Arthur M. Fernald, Sutton, Charles H. Dolloff, Concord, and Anna M. Littlefield, New London.

### NEW MEXICO

**Elections of Officers.**—Chaves County Medical Society, at its annual meeting in Roswell, elected Dr. Eugene M. Fisher, president; Dr. Charles F. Beeson, vice-president and censor; Dr. Charles M. Yater, secretary-treasurer, and Dr. Robert L. Bradley, all of Roswell, delegate to the territorial medical society.——Bernalillo County Medical Association, at its annual meeting in Albuquerque, elected the following officers: President, Dr. Lucian G. Rice; vice-presidents, Drs. Harry B. Kauffman and Charles A. Frank; secretary, Dr. Frank E. Tull; treasurer, Dr. Eligio Osuna; censor, Dr. Walter G. Hope, and delegates to the territorial society, Drs. John F. Pearce and Harry B. Kauffman, all of Albuquerque.——Dona Ana County Medical Association, at its meeting in Las Cruces, January 27, elected the following officers: Dr. Robert E. McBride, Las Cruces, president; Dr. C. A. Mitchell, Mesilla Park, vice-president; Dr. Troy C. Sexton, Las Cruces, secretary-treasurer; Drs. James H. Johnson, Organa, Robert E. McBride, Las Cruces, and W. C. Field, Las Cruces, censors, and Dr. Bruce E. Lane, Las Cruces, delegate to the New Mexico Medical Association.

### NEW YORK

**Carnegie's Latest Gift.**—A gift of $30,000 from Andrew Carnegie to Cornell University has been reported. The donation is to be used for the enlargement of the laboratory for chemical research provided one hundred additional students can be enrolled.

**The Tuberculosis Campaign.**—The Jefferson County Board of Supervisors has made an appropriation of $15,000 for a tuberculosis hospital to be established under the provisions of the Hamilton-Whitney law. This is the sixth county in the state to make an appropriation for this purpose.——Watertown has a new tuberculosis dispensary, made possible by a gift of $1,000 from a person who desires to remain anonymous, and the use of a building, rent free, and with the visiting nurse service is now well equipped to find patients to be sent to the county hospital when it is ready, and to care for them in the meantime.——The Cohoes Committee on the Prevention of Tuberculosis, at its annual meeting, pledged itself to raise $600 to support its visiting nurse for the remainder of the year.——Application has been made for authority to establish a tuberculosis hospital at Liberty, Sullivan county, by the Independent Order of B'rith Abraham of the United States of America, with principal offices in New York City.

#### New York City

**Harvey Society Lecture.**—The sixth lecture in the course given by the Harvey Society will be given at the Academy of Medicine on February 19 by Dr. Eugene L. Opie of the Rockefeller Institute for Medical Research on "Inflammation."

**To Increase Clinical Features.**—The Section on Medicine of the New York Academy of Medicine announces its intention of increasing if possible the clinical features of the section, and to this end a list of hospitals, dispensaries, laboratories and medical schools has been prepared, to each of which a meeting has been assigned.

**Vacancies in Staff.**—The West Side German Dispensary announces that two vacancies exist in the staff of the genito-urinary night clinic of the institution, and these positions offer exceptional opportunity for advance and research work in the specialty. Inquiries should be made to Dr. Abraham R. Wolbarst, 105 East Nineteenth street.

**Personal.**—In commemoration of the fortieth anniversary of the commencement of his work as an alienist, a dinner was given in honor of Dr. Carlos F. McDonald, February 2. Dr. George D. Stewart was toastmaster and Hon. Delancey Nicoll, William Travers Jerome and Goodwin Brown, and Drs. Stephen Smith and Austin Flint responded to toasts.

**New Officers for Italian Medical Society.**—The New York Italian Medical Society has elected the following officers: President, Dr. Antonio Stella; secretary, Dr. Rocco Bellantoni; treasurer, Dr. Antonio Vernaglia; council, the president and Drs. Gaetano Frank Samarelli, Giuseppe De Liguori, R. Muoio, and Salvatore Magnoni; and committee on audit, Drs. John LoPinto, Guivanni Buono, and Ignazio Collica.

**Doctors' Building in Brooklyn.**—The Hanson Realty Company has been incorporated with a capital of $100,000 to take over the property at No. 67 Hanson place, which consists of a seven-story colonial structure, designed exclusively for the use of physicians. This is the first office building exclusively for physicians in Brooklyn. Drs. George McNaughton, Frank E. West and Calvin F. Barber compose the advisory board.

**Clinics Organize to Fight Tuberculosis.**—The Association of Tuberculosis Clinics of the City of New York has been incorporated. Its purpose is to organize dispensary control of tuberculosis and to develop a uniform system of operation of such dispensaries as are organized. The association will retain patients under observation until they are satisfactorily disposed of and will prevent them from drifting from one dispensary to another. The incorporators of this association are Drs. James A. Miller, John H. Huddleston and John S. Billings, Jr., and Gaylord S. White and Lawrence Weiller.

**Radium Institute Incorporated.**—The Radium Institute of America has received its certificate of incorporation. The primary objects of the institute are to discuss and study radium and radio-active substances in the interest of science and humanity. The incorporators purpose to maintain clinics, laboratories, libraries and meeting rooms. The institute will have its offices in New York City but may operate in other cities of the country. The directors are Dr. Nicholas Murray Butler, president of Columbia University; Dr. Edgar F. Smith of the University of Pennsylvania; Prof. Charles F. Chandler and Drs. Willy Meyer, Robert Abbe, Bergen Davis, William J. Gies, William Hallock Elwood Hendrick, Hugo Leiber, George B. Pegram and Hugo Schweitzer.

### NORTH DAKOTA

**New Hospital Opened.**—Drs. Stephen Fisher and Goetsch have opened a private hospital in Dickinson. Two wards have been fitted up, with accommodations in all for twelve patients.

**Personal.**—Dr. A. T. Thorson is seriously ill with typhoid fever at his home in Dell Rapids.——Dr. Maud R. Williams, Devils Lake, who had an operation on the throat in Mercy Hospital, January 10, is reported to be convalescent.——Dr. Sigura A. Berg, Mayville, has been appointed superintendent of the local board of health, and Dr. Harry E. Canfield, vice-president.——Dr. Charles M. Niles, Cathay, sustained a serious loss by the burning of his office and drug store recently.

### OHIO

**Personal.**—Dr. James N. Nelson, Alliance, was reinstated as a practitioner by the state board at its meeting January 4, on recommendation of the Stark County Medical Society.——Dr. Jacob A. Stout has been elected president of the Columbus Board of Health and Dr. William L. Dick has been made temporary health officer, vice Dr. Sterling B. Taylor, resigned.——Dr. Louis H. Frechtling has succeeded Dr. Charles A. Shaeffer, resigned, as surgeon of the Hamilton police department.

**Society Meetings.**—The Dayton Academy of Medicine, at its annual meeting, January 14, elected the following officers: Dr. William F. Prather, president; Dr. Clifton L. Patterson, vice-president; Dr. Arthur O. Peters, secretary; and Dr. H. S. Patten, treasurer.——At the annual meeting of Portage County Medical Society, held in Ravenna, Dr. Wilford W. White was elected president; Dr. George J. Waggoner, vice-president; Dr. Cyrus O. Jaster, secretary, all of Ravenna, and Dr. Emily J. Widdecombe, Kent, treasurer.——At the annual meeting of Stark County Medical Society, held in Canton, January 18, the following officers were elected: President, Dr. T. Clarke Miller, Massillon; secretary-treasurer, Dr. G. F. Zinninger, Canton; and corresponding secretary, Dr. Arthur J. Hill, Canton.——Canton Medical Society, at its annual meeting, January 28, elected Dr. George A. Kelley, president; Dr. Edward H. Schild, vice-president; Dr. J. G. Lawrence, secretary-treasurer; and Dr. Jargery J. Gilfillin, corresponding secretary.

#### Cincinnati

**Would Utilize Isolation Hospital.**—The smallpox hospital, which was completed eleven months ago, has not been in use because no funds were available for its equipment and maintenance. The city council is to be asked to appropriate from $20,000 to $25,000 for equipment of this building so that it can be utilized as an additional hospital for tuberculosis patients, to accommodate about 100 patients. The present tuberculosis hospital is already filled to its limit.

**Lectures in Clinical Psychiatry.**—Dr. Frank W. Harmon, superintendent to Longview Hospital, announces the following schedule of lectures in clinical psychiatry, open to all practitioners of medicine and to all senior students: February 12, Dr. Philip Zenner, Introductory; February 19, Dr. Frank W. Langdon, "The Manic-Depressive Psychoses;" February 26, Dr. D. I. Wolfstein, "Dementia Præcox;" March 5, Dr. H. H. Hoppe, "Alcoholic Insanity;" March 12, Dr. Philip Zenner, "Confusional Insanity;" March 19, Dr. Frank W. Langdon, "Paranoia;" March 26, Dr. D. I. Wolfstein, "Paresis;" April 2, Dr. H. H. Hoppe, "Senile Dementia." All lectures will begin at 2 p. m.

## OKLAHOMA

**To Build This Year.**—Dr. Arch. K. West, dean of the Medical Department of Epworth University, Oklahoma City, announces that a new building will be erected for the medical department this year.

**Personal.**—Dr. A. T. Clark, superintendent of the State Insane Hospital, Norman, has resigned, and Dr. David W. Griffin has been appointed in his stead.——Dr. Albert E. Davenport has been appointed assistant to the Oklahoma county superintendent of health.

**Consulting Staff of State Health Board.**—Dr. John C. Mahr, state commissioner of health, moved his office from Shawnee to Oklahoma City, February 1. The following physicians have accepted positions as members of the consulting staff of the state board: Drs. Joseph B. Rolater, L. Haynes, Buxton, Everett S. Lain and William T. Salmon, Oklahoma City; John W. Duke, Guthrie, and Edgar E. Rice, Shawnee.

## *PENNSYLVANIA*

**County Society Publishes Bulletin.**—The Schuylkill County Medical Society has commenced the publication of a monthly paper called *The Medical Society Bulletin.*

**Officers Elected.**—The Washington County Medical Society has elected the following officers: President, Dr. George B. Woods, Washington; vice-president, Dr. David M. Bell, Claysville; secretary and treasurer, Dr. John B. Donaldson, Canonsburg, and censors, Drs. John C. Kelso, Canonsburg, and Leonard C. Honesty and Olie P. Dearth, Washington.

**Personal.**—Dr. H. M. Carey was unanimously elected superintendent of the Eastern Pennsylvania State Institution for the Feeble-Minded and Epileptic, Spring City, February 2, vice Dr. Henry M. Weeks, deceased.——Dr. David Bemus, Washington, was thrown from his buggy in a runaway accident, February 5, fracturing his leg.

**A Sane Fourth.**—The committee of the Medical Society of the State of Pennsylvania on Independence day injuries, appointed to complete details by which such injuries may be avoided, is circulating the statement and resolutions which were adopted by the house of delegates. The statement gives the number of injuries in the United States, and especially in Pennsylvania. The resolutions condemn this method of exhibiting so-called patriotism; appeal to the powers of legal restraint for suppression of the evil; appeal to the moral sense of the people at large, and the moral and professional responsibility of the individual practitioners; and appeal to the public press of the state to have this information promulgated in the fullest manner practicable each year.

### Philadelphia

**Personal.**—Dr. George E. Pfahler has been appointed clinical professor of roentgenology and Dr. John M. Swan, associate professor of clinical medicine in the Medico-Chirurgical College.——Dr. Henry W. Stelwagon, professor of dermatology in Jefferson Medical College, was elected an associate member of the Berlin Dermatologic Society, January 11.——Dr. John H. Musser has been elected a corresponding member of the Royal Society of Physicians of Budapest.

**New Societies.**—A society has been organized among the physicians connected with the American Hospital for Diseases of the Stomach, Wallace and Eighteenth streets, for the purpose of studying the normal and pathological conditions of the gastrointestinal tract. The name of the society is "The Stomach Hospital Gastro-Enterological Society," and the officers are: President, Dr. Robert D. Rhein; secretary and treasurer, Dr. Henry B. Ingle.——On January 23, "The Clinical Society of St. Mary's Hospital" was organized for scientific study of the cases in the wards of that hospital, and for the presentation of special cases, both medical and surgical, at the meetings rather than the presentation of papers. The society is composed of members of the staff, former members of the staff, members of the dispensary staff, and former residents. The following officers were elected: President, Dr. Louis F. Love; vice-president, Dr. Joseph H. Ross; secretary, Dr. James A. Kelly; treasurer, Dr. Gerald D. O'Ferrell; and censors, Drs. Frederick Kalteyer and Ellwood R. Kirby.——At the meeting for the organization of the Clinical Society of Jefferson Hospital, January 28, the following officers were elected: President, Dr. W. M. Late Coplin; vice-president, Dr. Edward J. Klopp; secretary, Dr. Elmer H. Funk; treasurer, Dr. C. C. Smith; and executive committee, Drs. William M. Sweet, chairman, Aller G. Ellis, Duncan L. Despard and P. Brooke Bland.

## SOUTH DAKOTA

**Hospital Notes.**—The Chamberlain Sanitarium has just completed an addition which has more than doubled its capacity. Seventy-one new rooms for patients have been added.——The new hospital for women in connection with the State Hospital for the Insane, Yankton, was formally opened January 7.

**Society Meetings.**—The Fourth District South Dakota Medical Society, pursuant to a call issued by Dr. Charles J. Lavery, Fort Pierre, was reorganized January 27. A scientific program was presented and the following officers were elected: President, Dr. Isaac M. Burnside, Highmore; vice-president, Dr. Charles M. Hollister, Pierre; secretary, Dr. Samuel R. Wallis, Miller; delegate to the state association, Dr. Harry T. Kenney, Pierre; and alternate, Dr. Theodore F. Riggs, Pierre. A resolution was unanimously adopted condemning the use of benzoate of soda in preserving foods, and the secretary was instructed to send copies to the senators and congressmen, the pure food commissioner of the state, and the chairman of the legislative committee of the American Medical Association. A committee was appointed to prepare a fee bill and report at the next meeting, to be held April 13.——Black Hills District Medical Society, at its annual meeting, held January 14, elected the following officers: President, Dr. John W. Freeman, Lead; vice-president, Dr. Frank S. Howe, Deadwood; secretary, Dr. Walter L. Vercoe, Lead; treasurer, Dr. Frances E. Clough, Lead; censors, Drs. Herman F. Ratte and Frederick W. Minty, both of Rapid City.

## WISCONSIN

**Donates Medical Library to University.**—A library of more than 1,100 volumes on medical subjects has been given to the School of Medicine of the University of Wisconsin, by Dr. F. Byron Robinson, Chicago, a graduate of the State University in the class of 1878.

**Work of Pasteur Institute.**—The new Pasteur Institute, Madison, reports that 35 hydrophobia patients from 16 towns in 11 counties in the state have been treated during the past two months. The charge for treatment is nominal, being $25 for each patient. The expense of treatment is $21, and the remaining $4 is put into a fund for indigent patients.

**Postgraduate Societies Organized.**—The Post-Graduate Medical Society of Beloit has been organized, and is to meet weekly under the supervision of Dr. Fred T. Nye, district councilor.——A number of physicians of Janesville met in the office of Dr. John F. Pember, January 3, and organized the Janesville Post-Graduate Medical Society, which held its first meeting, January 10.

## GENERAL NEWS AND COMMENT

**Health Officers to Meet.**—The next meeting of the Conference of State and Provincial Boards of Health will be held in the New Willard Hotel, Washington, April 28 and 29.

**Medical Supplies Burned.**—The medical supply depot of the Army in New York City was destroyed by fire, February 4, with a loss estimated at more than half a million dollars.

**New Surgeon General.**—Medical Director Charles F. Stokes was nominated for Surgeon-General of the Navy, February 5, to succeed Rear Admiral Presley M. Rixey, who retired voluntarily.

**Gift to Sanatorium.**—The president of the Metropolitan Life Insurance Company, at its annual dinner, January 22, announced that a friend of the company had given 90 acres of land and $100,000 in cash for building a tuberculosis sanatorium for the use of clerks and employees of the company. This institution, it is said, will be located in northern New York.

**Pan-American Congress.**—The Pan-American Medical Congress met in San Jose, Costa Rica, Dec. 25, 1909, and continued its sessions until January 3. It was attended by representatives from the United States, Guatamala, Honduras, San Salvador, Nicaragua, United States of Colombia, Panama, Venezuela, Chili and Cuba. The work of the congress dwelt especially on such contagious diseases as have been the object of international cooperation. Chief among these are cholera, yellow fever, bubonic plague and smallpox. Resolutions were adopted by the congress recommending the continuation of the present international policy for the restriction and prevention of disease.

**Association Establishes Headquarters in Baltimore.**—The American Association for the Study and Prevention of Infant Mortality, which was organized recently in New Haven, has established permanent headquarters at the new building of the Medical and Chirurgical Faculty of Maryland, and will institute an active campaign. The section on federal, state, and municipal prevention of infant mortality will be under the chairmanship of Dr. William H. Welch, Baltimore; Dr. L. Emmett Holt, New York City, will be chairman of the medical section, and Dr. Helen C. Putnam, Providence, of the section on education, Dr. Hastings H. Hart, New York City, director of the [illegible] Sage Foundation, is chair[illegible] prevention, and Miss Gertrude B. Knipp is executive secretary of the association.

## FOREIGN

**Monument to Lombroso.**—The city fathers at Verona have organized an international subscription for the purpose of erecting a monument to Cesare Lombroso, heading the list with $1,000. Address Il Consiglio Comunale of Verona, Italy.

**New Journal on Nutrition.**—We are in receipt of the first number of a new journal devoted to diseases of nutrition, metabolism and digestion, the *Internationale Beiträge zur Pathologie und Therapie der Ernährungsstörungen, Stoffwechsel und Verdauungskrankheiten*. The editor is A. Bickel of Berlin and seventeen countries are represented on the editorial staff, Dr. C. A. Herter of New York representing the United States. There is also a long list of collaborators containing the names of many of the leading specialists. Contributions may be in German, English, French or Italian, but they must be accompanied by as complete a summary of the contents as is possible in brief form, which must be in German. The contents of the first number include seven articles, all dealing with the physiology and pathology of the stomach and intestines. While the journal is in a certain sense a competitor of the *Archiv für Verdauungskrankheiten* and of the *Archives des Maladies de l'Apparcil Digestif*, the subjects covered are so important that there may well be room for three journals in the same field. August Hirschwald, Berlin, is the publisher.

## LONDON LETTER

*(From Our Regular Correspondent)*

London, Jan. 29, 1910.

### A Radium Spa

The project to form a radium spa in Cornwall is announced. So radioactive are the waters of Trenwith—the site of the spa—that Harrogate and other health resorts promise to have a formidable rival which will also form an effective counter-attraction to continental resorts. It is at Trenwith that the radium mine, mentioned in previous letters to The Journal, is situated. When it was discovered that the hot springs of Bath, so long celebrated for their beneficial effects, were nearly four times as radioactive as the old sulphur spring at Harrogate, the medical world was fluttered, but the Trenwith springs are seven times as radioactive as those of Bath. "Would any danger be likely to arise from bathing in such springs?" is a question which was put to the eminent scientist, Sir William Ramsay. "Not a bit," he replied. "Many go to places on the Continent where the water is equally radioactive and return cured." The waters of all the well-known spas are now known to be radioactive in more or less degree and the theory is growing that their curative properties are due to this fact rather than to their mineral qualities.

### Munificent Bequest for Research in Tropical Medicine

By the death of Sir Alfred Jones, the head of the great Liverpool shipping company, tropical medicine has lost its best friend. It was owing almost entirely to his munificence that the Liverpool School of Tropical Medicine was founded and also that the numerous expeditions were despatched to tropical countries to investigate their diseases. Sir Alfred not only placed his steamers free at the disposal of the members of these expeditions, but also contributed liberally to the other expenses. A Welshman, he embodied all that is best in the Celtic mind—a vivid imagination, rapid grasp of a problem, and instantaneous action as soon as he was convinced that a course was best. He had great faith in the commercial possibilities of West Africa and as soon as the great potentialities of medical science to make it habitable by the white race were revealed to him he financed tropical medicine with a princely munificence which has rendered his name as familiar throughout the world as those of the great investigators of tropical disease—Ross, Manson, Bruce, Boyce and others. His estate in Great Britain is valued at $3,000,000. Subject to certain legacies and bequests, the residue is left for such charitable purposes in England and the British possessions on the West Coast of Africa as his trustees may think fit. For their guidance he has indicated certain charitable purposes, mentioning particularly original research of all kinds into the causes of disease on the West Coast of Africa.

### Damages for Libel Recovered from the British Medical Journal

Damages have been recovered from the *British Medical Journal* under peculiar circumstances. An army doctor's wife, who had given way to intemperance and lived apart from him, left the greater part of her property, amounting to $40,000, to her medical attendant, Dr. Dunn. The husband contested the will, alleging undue influence on the part of the physician. The latter proposed a settlement out of court which was accepted. He resigned the greater part of the benefits he had obtained under the will and no costs were allowed him; and the husband, with the full approval of the judge, refused to withdraw the charge of undue influence. The *British Medical Journal* stated that all of the several wills made by the patient showed that she wished to benefit her physician and that, as she was separated from her husband and Dr. Dunn had befriended her and lent her money, he should have been allowed to receive the legacy. It further congratulated "Dr. Dunn on the virtual acquittal from an odious charge." To this and other remarks the husband objected and sued the *British Medical Journal*, alleging that these words meant that he had acted dishonestly and dishonorably and had made odious charges against Dr. Dunn without reason and with the object of benefiting himself. The *British Medical Journal* admitted this and published an apology but did not withdraw the facts asserted. A verdict was given for the plaintiff for $3,750.

### Proposed Reforms in Lunacy Legislation

A royal commission appointed to hold an inquiry into the care and control of lunatics has recommended that the statutory use of the word "lunatic" be discontinued and the term "mentally defective" be substituted. The object is to obviate what is called the "stigma" of lunacy. It is further recommended that the classes of persons to be subject to jurisdiction as "mentally defective" shall consist not only of idiots, lunatics and imbeciles, as under the present law, but also of the following: 1. Persons who through mental infirmity arising from age or decay of their faculties are incapable of managing their affairs. 2. Feeble-minded, i. e., persons who may be capable of earning a living under favorable circumstances, but who cannot manage their affairs with ordinary prudence or compete on equal terms with their normal fellows.

### A Centenarian Physician

The secretary of the Royal College of Surgeons reports that Dr. Edgar Jones, who was admitted a member of the college in 1834, has attained the age of 100 years. He began practice in the country, near Bristol, but in a few years went to a small town, Saffron Walden in Essex, in which county he has resided ever since. He has been a magistrate over fifty years, and until a year or two ago regularly attended the sittings of the bench. He is in excellent health for his years.

### A Victim to the X-Rays

The sad case of Mr. H. W. Cox, a pioneer maker of *x*-ray apparatus in this country, has been reported in previous letters. Some years ago *x*-ray dermatitis began on his hands, but he continued to work, and he exposed himself constantly to the rays while testing an apparatus for use in the Boer war in conjunction with Mr. Hall Edwards, another victim to the rays, whose case has also been reported in The Journal. The disease has progressed steadily during the past six years. Partial amputation of the left hand, the same operation on the right hand and amputation of the right arm have had to be performed. Mr. Cox is now in constant pain, and the disease has spread to his face and mouth. His prolonged illness has reduced him to financial difficulties, and a fund is now being raised for his assistance.

### The Cost of the Antivaccinationists

As stated in previous letters, the repeated concessions made to the antivaccinationists by the government have greatly reduced the number of vaccinated children in this country and increased the danger of an epidemic of smallpox. Dr. F. M. Sandwith has pointed out the waste of taxpayers' money which the antivaccinationists cause by comparing the cost of preparations for a possible epidemic in London and in Berlin. In Germany no extreme views as to the liberty of the subject, such as prevail in this country, exist to interfere with the thorough compulsory vaccination of the population. Consequently, the only provision necessary in Berlin for smallpox is a dozen beds in a general fever hospital. Near London a number of hospitals containing 2,040 beds have to be kept constantly ready for an epidemic. The capital outlay for this purpose amounts to $2,500,000 and the annual expenditure to $65,000.'

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, Jan. 28, 1910.

### Creation of a Fund for Immediate Assistance to Families of Physicians

The Association of the French Medical Press, in consequence of the constantly more frequent invitations to raise funds to relieve families of physicians reduced to poverty in consequence of the death of the father who has not been able to save enough to insure the future of his wife and children, and, in view of the slight results of appeals to the public, which is growing weary of such demands, has decided to create a general fund for the immediate aid of the families of physicians and for assistance by employment. It is intended to give aid to all the members of physicians' families, whether the death of the head of the family leaves his wife and children without resources, or whether a severe illness prevents the husband and father from providing for his family. The fund for immediate aid will insure the existence of the family during the period which follows the catastrophe, and the assistance by employment will insure their livelihood later. The association has addressed to all the professional bodies a circular inviting each one to designate two delegates to study ways and means for securing the new fund.

### Foreign Students at the University of Paris

Foreign students continue to grow more numerous at the University of Paris. Twenty years ago, in 1888-9, the number of foreign students was only 457. Ten years ago, in 1898-99, there were 1,174; in 1909 there were 3,326. The number had doubled in five years, for in 1904-5 there were only 1,633. These students come from all parts of the world. There are 150 from England, 107 from the United States, 165 from Egypt, 233 from Roumania, 231 from Germany, 139 from Austria-Hungary, 1,356 from Russia, and some also from the Scandinavian countries, from Bulgaria, from Greece, from Canada, from Mexico, from Argentina, from Brazil, from China and from Japan.

### Measures Against Criminal Abortion

At one of the last sessions of the Chamber of Deputies the question of the suppression of abortion was raised by M. Joseph Reinach. The administrative council of the *Syndicat des médicins de la Seine* has written to congratulate M. Reinach and to thank him for his stand. Deploring the frequency of abortion, the evil results of which are attested by physicians in all classes of society, the *syndicat* has decided to bring the question up before the next Congress of Practitioners, which is to be held in Paris during the Easter vacation in 1910.

### The Program of the Congress of Practitioners

The program of the next Congress of Practitioners is almost complete. The following are the titles of the papers which will be discussed and the names of the authors: "The Law of 1902 in Regard to Public Health," Drs. Declercq of Lille and Wicart of Paris; "Liberty of Choice of a Physician in the Mutual Aid Societies," Dr. Bolliet of Lyons; "Liberty of Choice of a Physician Under the Public Charities," Dr. Vallat of Joinville; "Increase of Medical Fees," Dr. Bresselle Vesinet; "Illegal Practice of Medicine; the *Locum Tenens*," Dr. Levassort of Paris; "The Hospital for Paupers," Dr. Regis of Paris; "The Administrative Organization of Hospitals in France and Abroad," Dr. Leon *Archambault* of Paris; "Abortion from the Medicolegal Point of View," Dr. Bertillon of Maisons-Laffitte; "Limitation or Non-Limitation of the Number of Students in the Medical Schools," Dr. Tourat of Paris; "The Superior Medical Council," Dr. R. Le Fur of Paris. The date has been designated as April 7, 1910.

### The Prizes of the Paris Surgical Society

The Paris Surgical Society held its annual session January 19. Following is the list of prizes awarded: The Laborie prize, $600 (1,200 francs), was awarded to Dr. Guibé, surgeon of the Hospitals of Paris, for a work entitled "Contusions and Traumatic Ruptures of the Duodenum;" the Ricord prize, $60 (300 francs), to Dr. L. Batut for his work on "Genital Tuberculosis in Man;" the Marjolin-Duval prize, $60, to Dr. C. Moreau, former intern of the Hospitals of Paris, for his work entitled "Sequelæ of Gastroenterostomy Performed for Non-Cancerous Stenosis of the Pylorus."

### Incidental Consultations Given by a Physician During a Professional Visit

The local court has just decided that a physician who, in the course of a visit to a patient, gives medical advice to a member of his patient's household, has no right to demand a separate fee for such advice. It is to be hoped that the physician in question will appeal the case. It would surely be going too far to hold that on the occasion of illness of the master or mistress of the house a physician is bound to give medical advice to the governess, the servants, etc.

### The Floods in France

The marquis de Vogüé, president of the French Red Cross, has just telegraphed to all the sections of the society the order to give aid to the victims of the floods which are now devastating various regions of France and which are more and more assuming the character of a national disaster. More than $10,000 (50,000 francs) have been received, with which kitchens and dormitories have been organized in various suburbs of Paris, where the homeless are sheltered, fed and clothed. The Union of the Women of France is also organizing means of aid and is raising a fund by subscription for the purpose.

Because of the flood the Academy of Medicine was unable to hold its weekly session on January 25—a circumstance without precedent, even during the most terrible days of the siege of Paris and of the Commune. From the 24th, the academy was without electricity, and on the morning of the 25th the basements of the academy were flooded, and prompt action was necessary to save the reserves of vaccine stored there. A few hours later, the water put out the furnaces, and, for lack of light and heat, the council of the academy decided to adjourn the session.

### Action Against Alcoholism

The National Antialcohol League held its annual celebration on January 23, under the presidency of M. Joseph Reinach, president of the antialcoholic group of the Chamber of Deputies. The president in his speech declared that there was no more imperative duty before individuals, parties and the government than the systematic and unrelenting struggle against alcoholism. The number of places licensed to sell liquor has increased 25 per cent. in thirty years, so that there are now 477,000 liquor shops, or one to every 80 inhabitants, or one to every 30 adults. This, moreover, is only an average; in several large cities and seaports, the number of licensed drinking-places has trebled. The annual consumption of alcohol may be reckoned at about 40,000,000 gallons (1,500,000 hectoliters) taxed and at least 20,000,000 gallons sold illegally.

### International Congress of Physiotherapy

The Third International Congress of Physical Therapeutics will be held in Paris from March 29 to April 10, 1910, under the presidency of Professor Landouzy, dean of the Paris college of medicine. This congress comprises seven sections, as follows: (1) therapeutics by movement and rest; (2) by water, air, heat and cold; (3) by climates, sunshine and the sea; (4) by electricity; (5) by luminous and non-luminous radiations—radium, etc.; (6) by mineral waters; and (7) by diet, food and regulation of habits.

### An Exchange of International Courtesies

The opening lesson in the course of Dr. Raphael Blanchard, professor of parasitology and medical natural history at the Paris college of medicine, was the occasion for a manifestation of sympathy between France and Great Britain because of the presence of Sir Rupert Boyce, professor of pathology at the University at Liverpool, and dean of the School of Tropical Medicine of that city. Out of courtesy, Professor Blanchard devoted this first lesson to a general outline of the recent progress made by English scientists and especially by the school at Liverpool in the domain of parasitology, with which tropical medicine has the closest relations. In a very interesting speech Sir Rupert Boyce returned his thanks and paid a tribute to the school of parasitology of the Paris college of medicine. He recalled that Professor Blanchard was the first one in France to introduce this course of instruction, which has since become so popular. It is known, of course, that while London and Liverpool had the first two schools of tropical medicine, since 1902 Paris has also possessed an Institute of Colonial Medicine (The Journal, Sept. 18, 1909, liii, 960), due to the initiative of Professor Blanchard. This institute sustains relations not only with the English schools but also with similar schools in Brussels, Hamburg, Lisbon, Naples and Philadelphia. At the end of the lesson, Professor Landouzy, dean of the college, spoke, recalling the fact that Sir Dyce Duckworth some time ago came over to give a lecture before the college of Paris, and remarked on the felicitous influence of such intercourse between universities.

### Formation of "France-America" Committee

A committee called "France-America" has just been formed in Paris and is established at 17 rue Cassette. This committee proposes to work for the development of economic, intellectual and artistic relations between the nations of the new world and the French nation; to found a monthly review and to gather together in it the most complete information in regard to the economic and intellectual life of the American peoples; to attract to France students and travelers from the two Americas and to extend to them a cordial welcome; and to encourage whatever will make America known in France or France known in America. Among the charter members of the committee are Professor Landouzy, dean of the Paris college of medicine, and Professor Pozzi.

## BERLIN LETTER

*(From Our Regular Correspondent)*

Berlin, Jan. 19, 1910.

### An Episode in the Cologne Dispute Between the Physicians and the Sickness Societies

For nearly two years there has been a conflict between the physicians and the *Krankenkassen* of Cologne which has led to a strike of the physicians. The societies have succeeded in procuring second-rate physicians as substitutes and as the health of the Cologne workingmen has been in general satisfactory, in the absence of an epidemic, the substitute medical force has so far been sufficient to take care of the insured. There has been no change in the matter for a long time and it is impossible to predict how the strife will be settled. As neither party is willing to give in, it may be that no change in these unpleasant relations will occur until the new imperial insurance law, which is still before the Reichstag, comes into force, unless something notable renders the situation so intolerable as to lead to interference by the government. The physicians who have been displaced by the societies are being supported as heretofore by the Leipsic league which, it may be understood, requires a considerable sum of money. The self sacrifice of the German physicians and their unanimity and solidarity in the struggle against the aggressions of the sickness societies make it possible for the league to expend thousands monthly in Cologne for the support of those who were formerly physicians to the societies.

It is easily understood that the medical strike-breakers are not regarded by their colleagues as equally justifiable and worthy of honor. This difference in esteem found a distinct expression a few days ago. Among the eighty-six physicians attending a postgraduate course by Professor Hochhaus in the academy for practical medicine at Cologne, were two of the strike-breakers. As the lecture was about to begin the other eighty-four, members of the medical society of Cologne, stated that they would not attend the lecture along with the two sick benefit physicians and refused to enter the auditorium. As the two physicians would not leave the room Professor Hochhaus decided to abandon his course as he had no desire to deliver his addresses to two gentlemen only. This conflict was brought up at the last session of the Cologne board of aldermen. On this occasion the mayor expressed the view that the refusal of the members of the medical society to attend lectures in common with physicians of the Krankenkassen showed a tendency to carry the idea of professional solidarity too far. In his view, medical science constitutes a neutral ground on which any one can stand who follows the high and ideal calling of the physician. This conception will find no echo in the medical profession. Our Cologne colleagues can not be blamed for refusing to associate with physicians whose professional conduct must be regarded as unworthy and objectionable.

### To Facilitate Literary References

The editorial department of the *Deutsche medizinische Wochenschrift* announces in its last number that the publisher of the journal has requested the department to use its efforts to secure the publication in all cases of the initials as well as the surnames of authors with their articles. The editor is thoroughly in accord with this suggestion, and supplements it by the request that not only in original articles, but also in abstracts, at least so far as concerns Germany, the residence of the author shall also be given. For the knowledge of the initials is often not enough to identify an author, especially if he has a not uncommon name. Only thus can indexes be made sufficiently complete and useful. Without this provision it is often impossible to determine which articles to include under the name of one and the same author. By the observance of this precaution the exchange of reprints would be greatly facilitated. That such an exchange is much to be desired was emphasized a short time ago in the *Deutsche medizinische Wochenschrift* by a Berlin physician, especially in reference to cases in which there is some dispute. The author in question points out that a scientific worker often has a rejoinder to his article published, merely by accident, when it would be very desirable that the opposing author should give notice of his position by sending the one whom he attacks a copy of his article, and in this way making possible an explanation of the opposing views.

## VIENNA LETTER

*(From Our Regular Correspondent)*

Vienna, Jan. 18, 1910.

### The Smoke and Dust Nuisance

The "Austrian Society for the Prevention of Smoke and Dust," a vigorous young organization of medical men and lay persons, has recently begun its campaign of publicity. The services of men trained in improving badly constructed furnaces and chimneys may be obtained free of charge. Every one is invited to report such nuisances to the society, which will endeavor to improve matters by moral suasion. Agents of the society are sent out to educate proprietors of factories, etc., through self-interest, since better combustion means economy as regards fuel. The present method of collecting the household refuse of 800,000 households in Vienna is by pouring out the contents of all sorts of boxes and dustbins, in the open street, into the van, just at the time when children are sent out to school. The society has finally prompted the magistrates to adopt a model of a cart which permits of a hygienic removal of this material.

### Excitement Over the Appearance of One Case of Smallpox

The papers have recorded with much excitement the fact that a case of smallpox—a single case it must be noted—has occurred within the precincts of this city. This is such a rare occurrence that the population were a little upset. While up till 1860 smallpox was constantly met with in hospitals, since the adoption of vaccination in this country the cases occurring among about 30,000,000 of inhabitants can be easily numbered, and in Vienna itself, years pass by without a case being observed. A couple of years ago an "epidemic," as it was termed, broke out in the city, altogether 151 cases; thereupon nearly the entire population submitted to revaccination. Only 68 of the patients were unvaccinated, the rest were vaccinated but less than nine days before the occurrence of symptoms; 19 cases were fatal—all of them amongst the non-vaccinated. The one case mentioned above was imported from Russia, and due precautions have been taken to ensure a speedy suppression of any outbreak.

### Boarding Out of Pauper Children

An incident, in which fourteen children were discovered in a "nursery" conducted by a madwoman, gives rise to a reform in the system of boarding out children. A committee composed of representatives of the police, the board of guardians and some private persons, has assumed control of the matter, and the services of lady workers have been secured. The children will be visited at least every three weeks, and a report of their health will be recorded by the relieving officers of the district to which they belong. Persons desiring to take in such children will have to submit to investigations as regard their reliability and carefulness. The maintenance of the child is the duty of its home community (*Heimatsgemeinde*). The physical condition of the child will determine whether the foster-parents will be eligible to receive another child for nursing. The pay is $5 to $7 (25 to 35 crowns) a month per child, and the children can remain with their foster-parents up to their sixth year, when they are placed into orphanages.

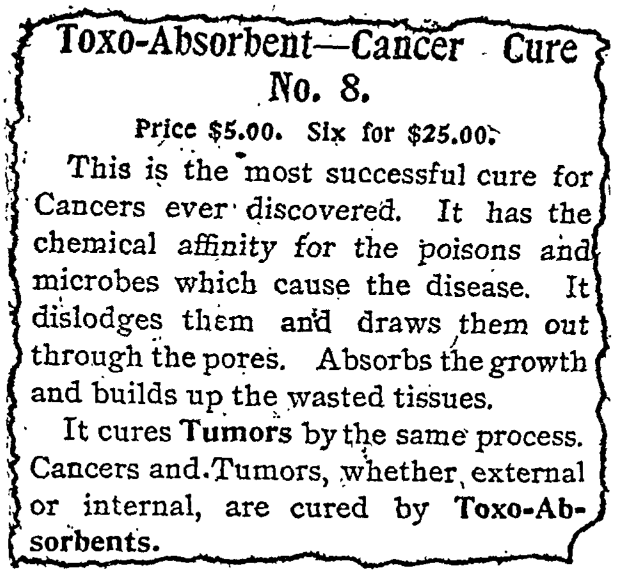
# *Pharmacology*

## TOXO-ABSORBENT COMPANY*

### The Postoffice Department Continues Its Good Work Against Mail-Order Cancer "Cures"

The latest "cancer cure" concern to be declared fraudulent by the postoffice authorities is that of the Toxo-Absorbent Company operated by one F. W. Warner, Rochester, N. Y. Warner is neither a physician nor a graduate chemist, but claimed to have "discovered" the "toxo-absorbent packs," which he advertised as a cure for such diseases as diphtheria, consumption, peritonitis, Bright's disease, cancer, syphilis and various other conditions.

A patient who was supposed to have cancer and who remitted $10 to the Toxo-Absorbent Co., was sent a number of cloth bags holding earthen material, referred to as toxo-absorbent packs "No. 7" and "No. 8" respectively; some tablets to be taken internally, labelel "Cancer and Tumor Tablets" and also a package of salve labeled "Cancer Ointment," to be applied locally. The "packs" were supposed to be warmed and applied each night externally to the "sore" after it had been well cleaned with hydrogen peroxid and packed with absorbent cotton.



**Toxo-Absorbent—Cancer Cure No. 8.**

**Price $5.00. Six for $25.00.**

This is the most successful cure for Cancers ever discovered. It has the chemical affinity for the poisons and microbes which cause the disease. It dislodges them and draws them out through the pores. Absorbs the growth and builds up the wasted tissues.

It cures **Tumors** by the same process. Cancers and Tumors, whether external or internal, are cured by **Toxo-Absorbents.**

Fig. 1.—Reproduction of one of the items from the descriptive price-list of the Toxo-Absorbent Company. Toxo-Absorbent No. 8, according to the government analysis, was composed of 98 parts sand and clay and 2 parts of charcoal. Each "pack" of this inexpensive mixture sold for $5.

The government chemists testified that chemical analysis of these preparations showed them to be composed as follows:

TOXO-ABSORBENT PACKS NO. 7

| | |
|---|---|
| Sand and clay | 98 per cent. |
| Animal charcoal | 2 per cent |

TOXO-ABSORBENT PACKS NO. 8

| | |
|---|---|
| Sand and clay | 97.25 per cent. |
| Animal charcoal | 2.75 per cent. |

CANCER AND TUMOR TABLETS

| | |
|---|---|
| Sugar of milk | 98.6 per cent. |
| Moisture | 1.4 per cent. |
| Animal charcoal | trace |

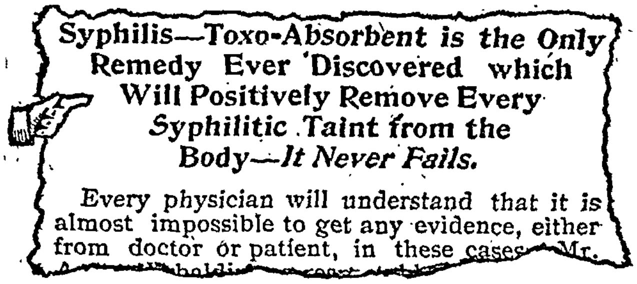
CANCER OINTMENT

Vaselin
Oil of tar
Trace of vegetable matter, apparently witch-hazel leaves.

Some of the claims made by the Toxo-Absorbent Company for its methods were:

> "The great drugless treatment."
> "The most important medical discovery in the world's history."
> "The only treatment which cures disease by removing the cause."
> "The Toxo-Absorbent Cure can be relied on to cure . . . consumption . . . Bright's disease . . . cancer . . . ."
> "Diseases hitherto considered incurable, such as certain forms of cancer, consumption, appendicitis, peritonitis, diphtheria . . . are readily cured."
> "The fact is, diphtheria is one of the very simplest and easiest of all diseases to subdue . . . *Absorbents have never failed of a* prompt and complete cure."
> "We have found many cases [of cancer] where the removal of the breast had been followed by the recurrence of the cancer. Such cases are considered as absolutely fatal and yet the absorbents have succeeded in making a cure in every case."

At the hearing it was shown that it was impossible to make a reliable diagnosis of cancer by having patients fill out a blank form and forward it through the mail. It was further shown that the treatment as exposed by the analysis would not cure "any case of cancer irrespective of its variety, duration and location in the body." Warner, the manager of the concern, entered a general denial of fraudulent intent but submitted no evidence of the value of the treatment excepting a number of "testimonials." These were to the effect that the individuals writing the "testimonials" had had what they believed to be cancer, had used the Toxo-Absorbent "packs," and had been cured. As there was no evidence to show that the writers of these letters ever had cancer the testimonials were worthless. The assistant attorney-general in discussing the value of testimonials, said:



**Syphilis—Toxo-Absorbent *is the Only* Remedy Ever Discovered which Will Positively Remove Every *Syphilitic* Taint from the Body—*It Never Fails.***

Every physician will understand that it is almost impossible to get any evidence, either from doctor or patient, in these cases. Mr.

Fig. 2.—Reproduction of part of one of the Toxo-Absorbent testimonials. The viciousness of selling a mixture of earth and charcoal as a positive cure for so serious a disease as syphilis, is evident.

"Speaking generally it may be said that in all my experience in this office never has a medical concern, no matter how fraudulent its methods or worthless its treatment, been unable to produce an almost unlimited number of these so-called testimonial letters."

Then in summing up, the assistant attorney-general said: "I find that this is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, and I therefore recommend that a fraud order be issued against this concern."

The fraud order was issued.

### A Repudiated Testimonial on Sid-Ol

Physicians in various parts of the country recently have received the following printed letter:

FROM ONE OF EUROPE'S MOST EMINENT PHYSICIANS

> *The Sid-Ol Company, Brooklyn.*
>
> *Dear Sirs:* Your preparation "SID-OL" has been placed before me for opinion, and after careful trial I think you have furnished in your wonderful combination (SID-OL) the greatest upbuilding power and constructive force against the depleting and destructive force of the BACCILLI of TUBERCULOSIS, I HAVE EVER MET. The blood becomes richer in red corpuscular elements with its use, digestion improves, and as far as I have been able to demonstrate, the most delicate stomach has not been deranged by its action.
>
> *Truly yours,*
> *Berlin, Germany.* ROBERT KOCH, M.D.

Dr. H. Strosser, of New Britain, Conn., after receiving one of these advertisements of Sid-Ol and doubting that Professor Koch had written any such endorsement, wrote to him regarding the testimonial and sent a copy of it with his letter. The following is a translation of the answer received by Dr. Strosser:

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* This matter may be had in a more complete form in a pamphlet entitled "The Toxo-Absorbent Company." Price 4 cents.

Berlin, Jan. 20, 1910.

*Dr. H. Strosser, New Britain, Conn.*

Professor Dr. Robert Koch desires to thank you very cordially for your friendly letter of the fifth of the month, and to state that he has had absolutely nothing to do with the testimonial for the preparation "Sid-Ol," a copy of which you enclosed, or with the "Sid-Ol Company," and that the testimonial consequently was not given by him, but is a complete forgery [*durchweg gefälscht ist*].

Dr. Koch has no objection to your publishing this communication in periodicals there.

With best respects of Dr. Koch.

Very respectfully,
Bohnert, Secretary.

It is conceivable, of course, that there may be another Dr. Robert Koch in Berlin besides *the* Dr. Robert Koch. If such is the case, however, it is not true that this second Dr. Robert Koch is "one of Europe's most eminent physicians." Whether the Sid-Ol Company has been guilty of manufacturing the testimonial, or merely of raising a medical unknown quantity to the nth. power, makes little difference; that it has been guilty of attempting to deceive the medical profession seems undeniable.

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# *Correspondence*

## Rat-Bite Fever

*To the Editor:*—In the letter from your London correspondent, dated Jan. 15, 1910, and printed in The Journal, Jan. 29, 1910, mention is made of an article by Dr. Harder of St. Bartholomew's Hospital published in the *Quarterly Journal of Medicine*, reporting a "previously undescribed disease" under the title of rat-bite fever.

In 1903, Dr. W. A. Evans, of Chicago, read a paper entitled, "A Fever Following Rat-Bite," before the Chicago Pathological Society, which was printed in the society's transactions, vol. v, No. 14, 1903. At that time Dr. Evans reported 3 cases which he had seen, and he had collected 55 cases from the literature, 15 of which were reported in America, 1 in France, 1 in Spain, and 38 in Japan. The earliest report in America was made by Wilcox in 1893. The other cases have followed at considerable intervals.

The striking features of the disease have been well described by Evans as follows:

"The wound heals promptly. After a varying interval—usually ten to twenty-one days—the fever appears. It is attended by pain, swelling, and usually some discoloration at the point of the bite. There is usually some chilliness, a moderate degree of general neuralgia, and sweating is rather noticeable. The marked peculiarity of the fever is its disposition to intermit. The intermissions may last for days, weeks, or possibly a month or more. During the intermission the patient feels well, and children frequently return to school. Local glandular enlargement is marked, and a general adenopathy may be present. The glandular enlargement usually increases and decreases with the fever. The enlargement may come on with the onset of the fever; sometimes it is delayed for weeks, as in the Sherwood case.

"The exanthematous or urticarial eruption is very striking. It may occur with the onset of the symptoms, but this is the exception. The rule is for the eruption to appear several weeks after the onset of symptoms. The eruption is reddish or purplish, with a red corona. It may be quite diffused. It is usually more pronounced in the vincinity of the bite than elsewhere. It fades as the temperature goes down, but it does not disappear entirely. It usually persists after all the symptoms have disappeared.

"Suppuration either in the wound or in the glands has not been found in recent years. The probability is that the sloughing wounds, suppurating glands and superficial boils reported in the cases of thirty to forty years ago, were the results of lancing and poulticing."

George H. Weaver,
Secretary Chicago Pathological Society.

## Plague in California—A Correction

*To the Editor:*—Referring to the editorial, "A Plague Focus in California," in The Journal, Dec. 18, 1910, enumerating the counties of California in which plague-infected squirrels had been found, an examination of the records shows that of the counties enumerated in the editorial no plague-infected squirrels have so far been found in San Joaquin, Stanislaus, Merced and Santa Barbara counties.

Walter Wyman,
Surgeon-General Public Health and Marine-Hospital Service.

## Immunization Against Syphilis by Other Venereal Disease

*To the Editor:*—The article by Calabrese, abstracted in The Journal, Dec. 18, 1909, p. 2140, suggesting that the gonococcus and the Ducrey bacillus may exert an immunizing influence against syphilitic infection and that individuals infected by the *Spirochæta pallida* have not recently been infected with gonorrhea or chancroid, presents an interesting subject for investigation. My experience, though limited, agrees with his observation, based on a much wider study, that only about 7.5 per cent. of syphilitics had suffered previously with either of the other infections mentioned.

Of the 16 cases of syphilis which have recently come under my observation, and in which the previous venereal history was obtained, 15 denied any venereal disease previous to the syphilitic infection; one had had both gonorrhea and chancroid before the syphilis was acquired. The rule does not appear to work the other way, for several have had other venereal infections since becoming infected with syphilis.

Lucius W. Johnson, M.D., U. S. S. Minnesota.

## A New Treatment of Spastic Palsies

*To the Editor:*—We wish to call to your notice some inaccurate statements contained in your editorial, Jan. 15, 1910, under the above title. These inaccuracies of statement and the unjustified conclusions in regard to the results of our procedure reflect not only on the work which has been done by us on the treatment of spastic paralyses and athetoses, but would likewise result in preventing further use of this method at the hands of others. We feel that we are justified in asking space to explain briefly what our work is and what results are being obtained.

This quotation from the editorial in question, "Even injection of alcohol into isolated nerves (as suggested by Schwab) is found inadequate for the permanent relief of spasticity" is a statement which is hasty, inaccurate and not based on knowledge either of our work or of our results. You say that the method is inadequate. We are at a loss to see how you have reached this conclusion, as we, ourselves, who have had the cases under observation, have found it quite the contrary and look on it as being a method which holds considerable promise for the relief of these cases.

A paper by Dr. Allison and Dr. Schwab, embodying a preliminary report of this work, under the title of "Muscle Group Isolation in the Treatment of Athetoses and Spasticities," was published in the *Journal of Nervous and Mental Disease*, August, 1909. In this paper the results of three cases of spasticity and one of athetosis were given with a statement of what was conceived to be the theories on which the procedure was based. Reference to this paper will, we believe, convince your readers that the statements embodied in the editorial are entirely at variance with the actual facts. For those who may not be interested enough to read our original communication or to whom a copy is difficult of access, we ask you to publish the following statements: 1. There was no effort made to cure spasticity by alcoholic injections into the peripheral nerves. Such a statement is manifestly absurd. 2. Our procedure is based purely on the mechanical principles involved of which spasticity is only one of several groups of factors. 3. The operation was done for the purpose of temporarily paralyzing a spastic muscle group in order by exercise and other physiologic means to strengthen the antagonist group, so that when voluntary movement returns to the once over-powerful group the proper mechanical balance might be restored. 4. There was further a chance that the peripheral pathway of the spastic impulses being temporarily blocked, their return in the original sum might be lessened. 5. In the case of athetosis a sensory paralysis was produced for the reason that the group of muscles attacked was supplied by a mixed nerve.

We wish further, at this point to enter our protest against the procedure of posterior root section in attempts to cure spasticity. Our objections are based mainly on the following facts: The magnitude and seriousness of the operation, especially in cases of spastic children, is a positive objection to it. Furthermore, the operation is based on incorrect physiologic principles for these reasons: Motor nerves contain sensory fibers which have nothing particularly to do with the posterior roots, so that cortical rest, whatever that might be, could not possibly result from merely posterior root sections. The overlap mentioned in the editorial is so considerable that in order to affect a whole spastic extremity, a large number of roots would necessarily have to be cut. This would make the operation one of inadvisable magnitude in the majority of cases. Furthermore, no matter how many roots were cut no complete sensory paralysis would possibly result. Admitting even that complete sensory paralysis could result then the very object of an operation of this kind would be done away with, namely, the possibility of coordinated voluntary movement. It is a well-known fact that in absolutely anesthetic areas no properly coordinated movement can ever be possible.

The chief object of treatment in all cases of spasticity is to enable the patient to make properly coordinated movements, with the mechanical disability caused by spasticity rendered as ineffective as possible. The spasticity as such is scarcely the main object of treatment, for the reason that its origin, nature and localization is still a matter of great obscurity. To assign it to the cortex of the brain is neither justified by facts nor upheld by any well-known theories.

Our results with the peripheral operation have been very encouraging, and we are only awaiting the proper lapse of time to report them in detail.

You have scarcely shown the proper respect to the element of time which is so frequently destructive to the brilliant promise of operative procedure, and we feel that you have unjustifiably, and without any knowledge of our work, made a statement which it is your obligation in fairness to correct.

Sidney I. Schwab,
Nathaniel Allison, } St. Louis.

Comment: The Journal is glad to give opportunity to Doctors Schwab and Allison to protest against the portion of the editorial containing alleged "inaccuracies of statement" and "unjustified conclusions." It is felt, however, that they unduly exaggerate the seriousness of the matter, as no reflection on their work was intended. The only statement in the editorial in which their work is referred to is very brief and is quoted in the second paragraph of their letter. Let us answer their objections in the order in which they state them:

1. The editorial does not say "cure spasticity by alcohol injections;" it speaks of relief. It is relief that is sought by the method of Schwab and Allison, and the best they can say for it is that it "holds considerable promise for the relief of these cases," and that "there was a further chance that the peripheral pathway of the spastic impulses being temporarily blocked, their return in the original sum might be lessened." So that their claims resolve themselves into a "promise" and a "chance." It is known that the injection of alcohol into nerve trunks causes only a temporary inhibition of function, as shown by Patrick and others in the treatment of neuralgias by this method, and this is recognized by Doctors Schwab and Allison when they speak of the spastic impulses being temporarily blocked. The experiments reported by them in their article in the *Journal of Nervous and Mental Diseases*, August, 1909, it is understood were made and published within a few weeks, and although almost a year has elapsed we have seen nothing published by them since confirming the permanent value of their method, nor do they say anything about permanent results in their letter. The method has not been adopted as far as we know, since they first presented it at the last meeting of the American Neurological Association. In view of these facts and in the absence of a record of definite results it is felt that the statement made that the method is found inadequate for the permanent relief of spasticity is fully justified.

2 and 3. It is agreed that the theory of the procedure is based on the mechanical principles involved, that of paralyzing the spastic group and giving opportunity to strengthen the opposing group of muscles. Nothing in our statement referring to their work controverts that theory.

4. This has already been answered.

5. May not the temporary relief reported by Doctors Schwab and Allison in their cases be due to the paralysis of sensory impulses from the muscles, which, as shown in the editorial, are the real cause of the spasticity, rather than the mere inhibition of motor impulses? This would be another argument in support of the method of section of the posterior roots.

As to the protest and objection against the method of section of the posterior roots, Doctors Schwab and Allison are of course entitled to their opinion, and their arguments against it may have force. However, endorsement of the method by such American neurologists as Fraenkel and Fisher, and orthopedists such as Gibney, and its practical employment by Clark and Taylor, Spiller and Frazier and the others mentioned in the editorial, including Foerster and Tietze, its originators, would seem to outweigh any merely theoretical considerations. We hold no brief for the new operation, however, and are willing to abide by the final reports of clinical results promised by the several workers in the field.

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# Association News

### Fund for Physicians Disabled by Sickness

*To the Secretary of Each State and County Medical Society, and to Other Interested Members:*

At the last session of the American Medical Association at Atlantic City the following report of Committee on Miscellaneous Business was adopted:

"The committee recommends that the President of this Association appoint a committee of five members to inquire into the desirability and practicability of establishing under the auspices of the American Medical Association a fund for the assistance of physicians disabled by sickness, and for a sanatorium for the treatment of such members of the Association as may be afflicted with tuberculosis or similar diseases; such committee to report to the House of Delegates at the next annual session of the Association."

As a basis for wise action the committee urges that the officers of state and county medical societies, and others interested in the subject, should at the earliest possible date, forward to the secretary of the committee, Dr. A. C. Magruder, Colorado Springs, Colo., answers to the following queries, with some account of any special cases that seem to illustrate the need for provision for disabled members of our profession.

1. Is there any provision by your state medical society or local society for the care of destitute and disabled physicians and those dependent on them? If so, how is such care provided?

2. What number of instances of special need for such assistance (or sanatorium treatment) have arisen in your locality within the last five years, and what number of your members need such assistance now?

3. About how many members of your county medical society are at present afflicted with tuberculosis or similar diseases; or have, within the last five years, died or withdrawn from professional work on account of such disease?

It is earnestly requested that this matter be brought before each county and state society at its next regular meeting, and that the desired information be furnished our committee at the earliest possible date.

The medical press is respectfully requested to republish this letter in order to give the subject wide publicity.

Edward Jackson, Denver.
Jefferson R. Kean, Washington, D. C.
A. T. Bristow, Brooklyn.
H. B. Ellis, Los Angeles, Cal.
A. C. Magruder, Secretary,
305 N. Tejon Street, Colorado Springs, Colo.

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## NEW MEMBERS

List of new members of the American Medical Association for the month of January, 1910:

### ALABAMA

Jones, W. C., Mobile.
LaVerne, D. C., Birmingham.
Rosser, W. W., Stevenson.
Somerville, J. H. Fairford.

### ARKANSAS

Dooley, J. B., Little Rock.
Fuson, C. M., Piggott.
Hill, L. H., Greenway.

### CALIFORNIA

Banks, A. E., Pescadero.
Beetle, C. H., Oakland.
Briggs, L. H., Oakland.
Burks, F. L. R., Fresno.
Carter, W. E., Los Angeles.
Cohen, E. W., Los Angeles.
Colburn, J. M., Riverside.
Fry, P. B., Benecia.
Gordon, S. B., Salinas.
Mansfield, T. D., Oakland.
Parsegan, J. H., San Francisco.
Paterson, F. H., San Jose.
Pope, S. T., Watsonville.
Powell, Alvin, Oakland.
Purves, John, Oakland.
Ragland, D. C., Los Angeles.
Richardson, G. H., San Francisco.
Riggin, L. L., Oakland.
Root, R. R., Corona.
Ross, M. H., Los Angeles.
Sanford, Paul, San Jose.
Skeel, D. W., Los Angeles.
Stockwell, G. N., Ventura.
Sutherland, R. T., Oakland.

### COLORADO

Beggs, W. N., Denver.
Gilbert, G. B., Colorado Springs.
Lutes, W. B., Merino.
Osborn, W. S., Pueblo.

### DISTRICT OF COLUMBIA

Lamb, I. H., Washington.

### FLORIDA

Bitzer, E. W., Tampa.
Bryans, R. L., Pensacola.
Dean, R. H., Jacksonville.
Gwynn, G. H., Tallahassee.
Rush, J. D., Orlando.
Spencer, H. C., Gainesville.

### GEORGIA

Edge, J. H., Toccoa.
Jarrell, W. W., Thomasville.
Jones, T. J., Newnan.
Sharp, C. H., Arlington.
Trimble, G. C., East Point.

### IDAHO

States, G. W., Franklin.

### ILLINOIS

Burrows, T. W., Ottawa.
Cables, H. A., E. St. Louis.
Carmack, A. C., Camargo.
Castle, Stanly, Springfield.
Coveny, M. J., Spring Valley.
Dice, H. F., Ridgefarm.
Durkee, A. C., Pontiac.
Ehlers, F. F., Oak Park.
Graves, S. S., Chicago.
Hagar, C. E., Joliet.
Hager, D. S., Chicago.
Harrison, E. M., Chicago.
Hathaway, E. P., Ottawa.
Higby, C. B., Eureka.
Kerch, H. E., Dundee.
Kerr, R. A., Peoria.
Kinley, T. F., Rockford.
Lesemann, F. J., Chicago.
McCord, A. N., Streator.
Mendel, M. L., Chicago.
Orr, H. D., Chicago.
Otrich, G. C., Belleville.
Parker, O. S., Aurora.
Phillips, N. C., Freeport.
Rich, F. D., Joliet.
Ross, John, Pontiac.
Scholten, E. R., Chicago.
Spencer, Annie W., Batavia.
Sterrett, W. S., Merseilles.
Weld, Anna, Rockford.
Welsh, M. M., Odell.

### INDIANA

Ditton, I. W., Fort Wayne.
Gooder, W. V., Lowell.
Hicks, J. R., Covington.
Kirk, E. W., Veedersburg.
Kirkpatrick, A. M., Columbus.
Lee, J. M., Winchester.

### IOWA

Adair, G. M., Anita.
Byrnes, R. L., Avoca.
Cocklin, W. K., Shannan City.
Duhigg, T. F., Des Moines.
Gardner, P. E., New Hampton.
Hall, Lyman, Spring Hill.
McDannell, J., Nashua.
Klemcke, C. A., Muscatine.
Williams, T. J., Hitemare.

### KANSAS

Carter, W. H., Wichita.
Daniels, M. L., Pawnee Rock.
Ervay, F. L., Fredonia.
Hill, Emma L., Oswego.
Longenecker, G. W., Elsmore.
Mason, K. P., Cawker City.
Newton, W. B., Glasco.
Potter, H. E., Clifton.
Quantius, L. F., McPherson.
Slayton, F. H., Wichita.
Stein, Chas., Glasco.
Van Meer, W. H., Valley Falls.

### KENTUCKY

Bandy, C. E., Rumsey.
Gibson, A. P., Hellier.
Hillman, A. J., Glenwood.
Martin, G. E., Myers.
Nunnelley, S. B., Bullittsville.
Quinby, S. C., Louisville.
Woodburn, Clarence, Bremen.

### LOUISIANA

Brown, A. B., New Orleans.
Burthe, J. L., New Orleans.
Canepa, Louis, New Orleans.
Clark, L. O., Lafayette.
Leake, W. W., New Orleans.
Nothacker, Wm., New Orleans.
Rupp, J. A., New Orleans.
Troescher, W. G., New Orleans.

### MAINE

Hatch, L. B., Portland.

### MARYLAND

Bowles, E. L., Middletown.
Fehsenfeld, A. L., Baltimore.
Hanby, C. M., Cambridge.
Moss, W. L., Baltimore.
Poulton, J. E., Baltimore.
Underhill, A. J., Baltimore.
Walton, H. J., Baltimore.

### MASSACHUSETTS

Bigelow, E. B., Worcester.
Darling, A. E., Lynn.
MacLennan, A. D., Boston.

### MICHIGAN

Barnebee, J. H., Vicksburg.
Bjorkman, Geo., Gladstone.
Burke, R. A., Ishpeming.
Combacker, L. C., Ann Arbor.
Hipp, Wm., Detroit.
Leland, R. G., Ann Arbor.
Martin, R. H., Mt. Clemens.
Pettis, J. H., West Branch.
Townsend, F., Saulte Ste. Marie.

### MINNESOTA

Andrist, J. W., Owatonna.
Austin, E. E., Minneapolis.
Bockman, M. W. H., Thief River Falls.
Brigham, F. T., Watkins.
Darling, J. B., St. Paul.
Ertel, E. Q., Ellendale.
Farr, R. E., Minneapolis.
Hagen, G. L., Minneapolis.
Murdock, H. G., Taylors Falls.
Pilon, P. C., Paynesville.
Plonske, C. J., Minneapolis.
Reinestad, C. S., Brainerd.
Ulrich, H. L., Minneapolis.
Vinje, Syver, Henning.

### MISSISSIPPI

Cox, W. A., Pascagoula.
Doty, W. H., Biloxi.
Strong, Robt. A., Pass Christian.
Wilson, J. J., Jr., Cold Water.

### MISSOURI

Beatie, W. R., Marshfield.
Bland, W. W., Vandalia.
Carriere, T. L., St. Louis.
Harlan, W. E., St. Louis.
Holdenried, W. E., St. Louis.
Mack, M. L., Joplin.
Moore, H. M., St. Louis.
Richter, Richard, St. Louis.
Sale, Llewellyn, St. Louis.
Shy, D. E., Knobnoster.
Spencer, Selden, St. Louis.
Wall, O. A., Jr., St. Louis.
Welterer, H. L., St. Louis.

### MONTANA

Barbour, M. W., Helena.
Hoag, R. B., Aldridge.

### NEBRASKA

Borglum, Frank, Lincoln.
Henton, G. E., Friend.
Mace, J. L., Glenville.
Thompson, I. L., Beemer.

### NEW HAMPSHIRE

Graham, G. S., Hanover.
LaFrance, A. J., Laconia.

### NEW MEXICO

Cartwright, M. G., Albuquerque.
Cheyney, V. S., Sawyer.
Smart, R. S., Albuquerque.

### NEW YORK

Appelbaum, S. J., Rochester.
Brickell, F. L., Silver Creek.
Browne, W. T., Brooklyn.
Cutter, Harriet P., Utica.
Emerson, Haven, New York City.
Ginsburgh, E. L., New York City.
Green, A. R., New York City.
Haller, G. J., Buffalo.
Hoddick, Wm., Buffalo.
Jagle, Elizabeth C., New York City.
Kendall, H. A., Buffalo.
Lattin, C. B., Buffalo.
MacFarland, E. G., Clinton.
Macmillan, Isabel, New York City.
Rosenbloom, A. A., New York City.
Ross, Mary J., Binghamton.
Savidge, E. C., New York City.
Schaefer, A. C., Buffalo.
Seff, Isadore, New York City.
Stillman, R. G., New York City.
Wasch, M. G., Brooklyn.

### NEW JERSEY

Coe, Richard, Newark.
De Mund, C. A., Ridgewood.
Jacob, A. N., Sparta.
Lewis, L. L., Hoboken.
Parke, Henry, Paterson.
Rogers, B. H., Paterson.

### NORTH CAROLINA

MacConnell, J. W., Davidson.
Rhodes, J. S., Williamston.

### NORTH DAKOTA

Bean, O. G., Walcott.
Benn, F. G., Kulm.
Boslough, A. W., Dwight.
Canfield, H. E., Hatton.
Fisher, A. M., Bismarck.
Greenman, N. H., Fairmount.
Hamilton, J. S., Hansboro.
Kron, L. O., Kenmare.
Labbett, L. H., Enderlin.
Lancaster, B. M., Crosby.
LaMoure, H. A., Grafton.
Mallarian, K. H., Fargo.
McClusky, O. W., Carrington.
Slyfield, F. A., Grand Forks.
Thelen, W. P., Wilton.
Wug, I. C. J., Kenmore.

### OHIO

Banta, M. B., Cleveland.
Broeman, C. J., Cincinnati.
Corwin, M. M., Savona.
Hauer, A. M., Columbus.
McKay, R. H., Akron.
Palmer, D. W., Cincinnati.
Perrin, D. A., Chillicothe.
Pollock, J. K., Ashtabula.
Shelton, H. P., Georgetown.
Sicherman, Armin, Akron.
Ullery, G. C., West Milton.
Wedler, C. R., Cleveland.

### OKLAHOMA

Clark, Guy, Milburn.
Johnston, J. C., Waurika.
Mitchell, R. L., Dow.
Sands, A. J., Capron.
Warmack, J. C., Muskogee.
Watson, L. F., Oklahoma City.

### OREGON

Bettman, A. G., Portland.
Truax, L. L., Bonanza.

### PENNSYLVANIA

Bashore, S. D., Palmyra.
Hodge, E. B., Jr., Philadelphia.
Ingram, T. E., Marietta.
Leach, W. W., Philadelphia.
Many, H. C., Tyler Hill.
Patterson, H. B., Pittsburg.
Shick, W. B., Philadephia.
Woodside, H. L., Mahaffey.

### RHODE ISLAND

Wilcox, R. S., Providence.

### SOUTH CAROLINA

Baker, Mary R., Columbia.

### SOUTH DAKOTA

Gundermann, H. R., Selby.
Hopkins, N. K., Arlington.
Youngs, A. H., Pierre.

### TEXAS

Allison, Bruce, Fort Worth.
Earle, Hallie, Marlin.
Parrish, M. O., Hubbard.
Robbie, M. K., San Antonio.
Stephenson, H. H., Irene.
Wedemeyer, E. L., Mart.

### UTAH

Faust, Elsie A., Salt Lake City.
Sandberg, Carl L., Salt Lake City.

### VERMONT

Miltimore, H. H., St. Johnsbury.

### VIRGINIA

Bowyer, C. B., Osaka.
McDowell, I. W., Jr., Butterworth
Steere, F. E., Richmond.

### WASHINGTON

Cooke, C. T., Seattle.
Lane, J. L., Seattle.

### WEST VIRGINIA

Barrow, A. L., Kilsyth.
Gillespy, Thurman, Wheeling.
Whiteside, W. E., Fenwick.

### WISCONSIN

Andrew, G. F., Birchwood.
Bishop, L. A., Fond du Lac.
Bass, E. A., Montello.
Bender, Jesse L., Boaz.
Bolton, E. L., Chilton.
Brooks, F. D., Fox Lake.
Chilson, Benj., Sharon.
Christofferson, P. J., Waupaca.
Collins, W. P., Racine.
Dusenbury, G. E., Amherst.
Erdman, C. H., Stanley.
Fenelon, C. D., Phillips.
Fifield, G. W., Janesville.
Hay, T. H., Stevens Point.
Kennedy, W. R., Milwaukee.
Lathrop, H. A., Marshfield.
McIndoe, T. B., Rhinelander.
Morgenroth, H. W., Oshkosh.
Park, W. H., Glenwood.
Parker, E. H., Eau Claire.
Quin, J. F., Milwaukee.
Raymond, R. G., Brownsville.
Reichert, J. E., Schleisingerville.
Sarazin, F. C., Superior.
Scheib, G. F., Fond du Lac.
Scheid, M. M., Rosendale.
Thomas, W. O., Clinton.
Von Neupert, I. C., Jr., Stevens Point.

# *Queries and Minor Notes*

## PRONUNCIATION

*To the Editor:*—Please give me the correct pronunciation of "pellagra" and "hexamethylenamin."

M. R. Drewry, Byrdville, Va.

Answer.—Pĕl-lā′-grah; hĕx-ă-mĕth′-ĭl-ĕn-ăm′-ĭn. Some other pronunciations of the first-mentioned word can be called "*correct*" so far as having good authority, but the majority of the best dictionaries favor the pronunciation given.

## METHOD OF MAKING EPSOM SALTS PALATABLE

*To the Editor:*—Please publish a formula for making Epsom salts palatable, and also state the best method of giving sodium nitrite, whether in simple solution or combined with other preparations.

A. F. Blachley, Woodstock, Ohio.

Answer.—The most agreeable method of taking Epsom salts is by means of one of the effervescing preparations. Perhaps the next most pleasant method is to dissolve the salts in freshly made lemonade. Possibly some of our readers will suggest a better method.

The dose of sodium nitrite, being generally small, is well administered in tablet form, given directly after meals. The best tablet to have on hand is one that contains one grain. One or more of these may be administered as desired.

## CAPITALS IN PRESCRIPTIONS

*To the Editor:*—Please give me advice on the following point: I notice that many of our Southern physicians, especially the older ones—men of education and large experience—in writing prescriptions invariably use capitals as in the following line:

℞ Unguenti Aquæ Rosæ.............................. 30

instead of

℞ Unguenti aquæ rosæ.............................. 30

M. R. Drewry, Byrdville, Va.

Answer.—This is one of the cases in which, since no *a priori* rule can be applied, the only guide for individual taste and judgment is furnished by expediency and by the mass of good usage. Past generations used capitals with what appears to the present generation like lavish extravagance. Persons whose writing habits were formed twenty or twenty-five years ago are inclined to use capitals much more freely than do younger persons of equal educational advantages, for it is now considered better form to reserve capitals, as far as possible, for proper names, proper adjectives, etc. Almost universal custom sanctions the use of lower-case letters as the initials of the second terms of official titles in prescriptions.

## DETECTION OF URINARY ACIDITY

*To the Editor:*—What is the simplest and best test for deciding the acidity of the urine.

S. T.

Answer.—Owing to the complexity of the composition of the urine it responds differently to different tests for reaction. Thus a urine which is alkaline to litmus may show a neutral or acid reaction with phenolphthalein. For practical purposes, it is usual to use litmus for the qualitative test. If the paper is turned blue it should be dried at a gentle heat to see if the alkalinity is due to ammonia. If this is the case the blue color at first given to the paper will disappear on drying. An alkalinity due to ammonia is only of significance if the urine is fresh. When fresh urine is alkaline from the presence of ammonia decomposition must have taken place in the urinary passages before the urine was voided. For quantitative estimation several complicated processes have been devised, but it is usually sufficient to titrate the urine with decinormal sodium or potassium hydroxid using phenolphthalein as an indicator. The acidity may be expressed by stating the number of cubic centimeters of the decinormal alkali required to neutralize the acid in 100 c.c. of the urine. Lack of space forbids an extended discussion of this subject for which we refer our correspondent to any good text-book.

## TREATMENT WANTED FOR ATROPHIC RHINITIS

*To the Editor:*—I have a case of atrophic rhinitis in which I should like some help. The patient, a farmer's wife, aged 31, consulted me about 14 months ago. The nasal septum and turbinate bodies are entirely gone. There are horrible crusts and scales. Transillumination shows the frontal sinuses clear. There have never been nasal polypi. There seems to be some involvement of the sphenoid sinus and ethmoid labyrinth. The mucous membrane is so sensitive that she cannot breathe without cotton in the nostrils; it also bleeds easily. The woman is in good health otherwise, and there is no specific history.

The treatment I have given has been: Mercury to the limit of tolerance for ninety days; potassium iodid for three weeks. Fowler's solution up to 30 drops a day with iron peptomanganate for ninety days; locally, I have used ichthyol 20 per cent.; strong solution of potassium permanganate; pure guaiacol; and alkaline washes *ad libitum*. None of these gave any result. An injection of 7 minims Koch's bacilli emulsion (B. E. No. 3) caused a rise in temperature to 102 F., and the woman felt very ill. There was no local effect. One week later, 5 minims were given and the temperature rose to 101 F.; one week later, 7 minims were given and temperature rose to 100 F.; another week later, 5 minims were given without results. Ten injections of 1 cm. each of staphylococcus and streptococcus vaccines were given without results.

J. T. Gray, Stillwater, Minn.

Answer.—It is somewhat difficult to venture an accurate diagnosis in this case from the data at hand, but it is possible to make a tentative diagnosis and offer some suggestions regarding the treatment. The term "atrophic rhinitis" is applied to a condition of the nasal chambers in which atrophy, accumulation of secretion and crusts exist accompanied by fetid nasal breath. From the description of the conditions in this case there is in addition to the above symptoms destruction of the cartilaginous and bony septum, a condition which is rarely present in ordinary atrophic rhinitis. Such destruction does take place, however, in syphilitic disease of the nose. It would perhaps be well in this case to explore the sphenoid sinuses and the ethmoid cells. If they are found to be diseased, treatment should be directed toward them first. The nasal chambers should be kept clean by frequent irrigations of a hot 2 per cent. solution of sodium bicarbonate; mildly astringent solutions may be used, but strong astringents or irritating lotions should be avoided as a rule. A 10 per cent. solution of ichthyol in glycerin applied on a tampon and left in position for half an hour is of value in some cases. In other words, the local treatment should be directed toward removing the source of pus formation if such can be found, keeping the nasal chambers clean and making the condition of the patient as comfortable as possible. The atrophic condition is of course permanent and as the mucous membrane becomes sclerosed the secretions will become less and the condition in this respect will be improved. As to constitutional treatment, the iodid of potassium in full doses might be used with benefit in this case and attention given to the hygienic conditions. This patient is past the stage in which much can be done except to relieve symptoms. The clearing up of sinus disease, if present, attention to local conditions and general treatment as outlined above may do much to improve the condition and check the destructive process.

## A TUBERCULOUS PATIENT'S ENDURANCE OF FORMALDEHYDE GAS

*To the Editor:*—In The Journal, Jan. 15, 1910, page 221, I notice a question as to the poisonous effects of formaldehyde gas by slow or gradual inhalation. Having had some unique experience with this gas, I take the liberty of answering the query positively as to the one case.

In the winter of 1904 I had full control of our city hospital. A man with acute tuberculosis was admitted. The physical examination showed that both lungs were deeply involved, he was emaciated, weighing only 110 pounds. His temperature ran from 102 to 104 F. every day, night sweats were terrific, no appetite, pulse 160 to 170, respiration 60 to 80. He was so weak and emaciated that he could with difficulty walk across his room without feeling completely exhausted and out of breath. Microscopic examination of his sputa showed numerous tubercle bacilli. He had been treated by several physicians, all of whom had told him he could not recover; beside he had resorted to a number of the proprietary and "patent" medicines so easily found, until at last he decided to make no further effort to get well.

After carefully examining him I asked if he objected to my experimenting on him, provided I did him no harm. To this he replied by saying no, that he was convinced that medicine would do him no good and he was tired of trying it.

I had him put in a room 12x12x10 feet and began gradually to saturate the room with formaldehyde gas, allowing formalin to evaporate slowly from a dish placed in the room. At first I ordered one-half ounce of formalin poured into the dish every four hours. (I had explained to him fully what his sensations would be, and assured him that there was absolutely no danger.) The quantity of formalin was increased slowly from time to time, until the room became so saturated with the gas that no one could enter it. The nurse in charge did not dare enter, but in order to take his temperature would pass the thermometer through the partially opened door, when he would take his own temperature; then to count his pulse she would open the door slightly and have him pass his arm outside.

I kept him in this room with the door and window closed, never opening either except as above, and when his meals were served, for four months. After this time I allowed him to sit outside in the open air, and soon began to have him take short walks.

When he came out of his formaldehyde room his temperature had been normal for six weeks, his pulse was 84 to 90, respirations 24 to 26, and he weighed 140 pounds.

At this time there could be found a few tubercle bacilli in the sputum but it required considerable time and search to find them. Being an ignorant man, he left the hospital at the end of the fifth month, without my permission of course, and really without my knowledge. Some six months thereafter I succeeded in locating him in an adjoining county whither he had gone after leaving the hospital, and at that time he was slowly dying with an acute exacerbation of the disease.

This shows clearly that in this one case the formaldehyde gas not only did no harm but actually did good, and so much good that I firmly believe that had he continued the treatment he would have fully recovered, and would probably be a well man to-day.

Considering the extent of the disease and the late stage reached before treatment was begun, the result to me was marvelous, and made me feel that formaldehyde gas might some day be our panacea for tuberculosis, and be the means of curing some patients, even after they were not in condition to take the prescribed treatment of the present time. This patient could walk two miles without a halt and would not feel fatigued therefrom, nor would his pulse quicken more than normally.

I attributed the wonderful improvement in this case not to formaldehyde gas alone, but to the gas, combined with rest and forced feeding. We all know what the result would have been, under similar circumstances, without the use of the gas.

This case was a most interesting one to me and I feel that it will interest the profession in general.

S. Lile, M.D., Lynchburg, Va.

Answer.—The remarkable tolerance of Dr. Lile's patient for formaldehyde gas seems most unusual. It seems to contradict the experience of others and they may be somewhat skeptical in regard to it, as in its use for disinfection purposes tolerance of its irritating effects on the respiratory and conjunctival mucous membranes does not seem to be acquired after its frequent employment over considerable periods of time.

# The Public Service

## Medical Department of the Army

Changes for the week ended Feb. 5, 1910:

Howard, Deane C., major, on expiration of leave of absence ordered to Jefferson Barracks, Mo., for duty.

Bradley, Alfred E., major, relieved from duty at Jefferson Barracks, Mo., and to sail from San Francisco, July 5, 1910, for duty in the Philippine Islands.

Raymond, Henry I., lieut. col., relieved from duty as Chief Surgeon, Department of Dakota, and to sail from San Francisco, April 5, 1910, for duty in the Philippine Islands.

Loving, Robert C., capt., relieved from duty at the U. S. Military Academy, West Point, N. Y., to take effect April 1, 1910, on expiration of leave of absence to sail from San Francisco, Aug. 5, 1910, for duty in the Philippine Islands.

Johnson, Howard H., lieut., will on arrival at San Francisco, proceed to Fort McDowell, Cal., for duty.

Christie, Arthur C., lieut., will on arrival at San Francisco, proceed to Columbus Barracks, Ohio, for duty.

Gostin, Bernard S., lieut., will on expiration of leave of absence, proceed to West Point, N. Y., and report to the Superintendent, U. S. Military Academy, for duty.

Bundesen, H. N., 1st lieut., M. R. C., assignment to duty in the Philippine Islands revoked.

Cohen, Hymen M., 1st lieut., M. R. C., relieved from duty at Fort Rodman, Mass., and to sail from San Francisco, April 5, 1910, for duty in the Philippine Islands.

Byrne, Charles B., col., January 28, retired from active service.

Duncan, William A., capt., sick leave extended 4 months.

Love, Joseph W., 1st lieut., M. R. C., granted 1 month and 15 days leave of absence.

Christie, Arthur C., lieut., leave extended 30 days.

Gapen, Nelson, capt., granted 4 months leave, to take effect when relieved from duty in Philippines Division.

De Niedman, Wm. F., 1st lieut., M. R. C., leave extended to March 5, 1910.

Stanton, Samuel C., contract surgeon, report for duty as Attending Surgeon, Headquarters Department of the Lakes, Chicago.

Rand, I. W., major, en route to Army and Navy General Hospital, Hot Springs, Ark., on detached duty.

Johnstone, E. K., 1st lieut., M. R. C., ordered to accompany troops from Presidio of San Francisco, to Fort Sill, Okla.

Haley, James C., and Ashburn, James K., 1st lieuts., M. R. C., relieved from duty at the Army Medical School, and will proceed to their respective homes, and report by telegraph to The Adjutant General of the Army.

Ireland, M. W., ordered to proceed to Chicago, on official business, and on completion of this duty to return to his proper station in this city.

Kelly, John P., 1st lieut., M. R. C., ordered to Fort Rugar, H. T., for duty, instead of to Schofield Barracks, H. T., as issued in previous orders.

Hansell, Haywood S., capt., granted 30 days' leave of absence, with permission to apply for 30 days' extension.

## Medical Corps of the Navy

Changes for the week ended Feb. 5, 1910:

Butts, H., asst.-surgeon, ordered to duty at the Naval Medical School and to additional duty at the Government Hospital for the Insane, Washington, D. C.

Phelps, J. R., asst.-surgeon, detached from the *Yankton* and ordered to the *Solace*.

Huntington, E. O., surgeon, placed on the retired list Jan. 29, 1910.

Cole, H. W., P. A. surgeon, ordered to the *Yankton* on the expiration of leave.

Hibbett, C. T., medical inspector, ordered to the Naval Recruiting Station, Baltimore.

Huntington, E. O., surgeon, retired, detached from the *Lancaster* and ordered home.

Angeny, G. L., surgeon, detached from the Naval Recruiting Office, Baltimore, and ordered to the *Lancaster*.

# Marriages

Ansel Marion Caine, M.D., to Miss Pearl Jacobs, both of Rome, Ga., Dec. 14, 1909.

Francis D'Agostino, M.D., to Miss Diana Capasso, both of New Haven, Conn., January 23.

Hugh M. Cox, M.D., to Miss Margaret Adelaide Kuhn, both of New York City, January 26.

William D. Corse, M.D., Gardenville, Md., to Miss Ethel Gordy, of Baltimore, January 26.

John A. Evans, M.D., Baltimore, to Miss Grace Estelle Causey, at Baltimore, January 26.

John Cutler Baker, M.D., Ramona, S. D., to Mrs. Edith Corliss, of Ripon, Wis., January 26.

James Gordon Cumming, M.D., Ann Arbor, Mich., to Miss Helen Amelia Sullivan, of Chicago, February 1.

Henry Nicholas Bruechert, M.D., to Miss Jeannettee Plesher, both of Parkersburg, Iowa, January 6.

Alexander Francis Stevenson, Jr., Chicago, to Miss Karen Nielson, of Copenhagen, at Chicago, February 7.

Samuel Harvey Iams, M.D., Waynesboro, Pa., to Miss Elizabeth Stribling Rouse, at Baltimore, January 29.

James Spencer Purdy, M.D., Twin Falls, Idaho, to Miss Janet Seward Robinson, of Auburn, N. Y., at Aurora, N. Y., Dec. 25, 1909.

# Deaths

**John Stearns Jamison, M.D.** University of Michigan, 1852; formerly a member of the American Medical Association and Medical Society of the State of New York; surgeon of the Eighty-sixth New York Volunteer Infantry, and later surgeon-in-chief of the Third Army Corps and a member of the board of medical examiners of the Army during the Civil War; who is said to have established the first contraband hospital in Washington; president of the pension board of Steuben county since 1873; died at his home in Hornell, January 19, from cerebral hemorrhage, aged 87.

**Thomas L. Taylor, M.D.** Georgetown University, Washington, D. C., 1882; a member of the Medical Association of the District of Columbia; and of many foreign scientific societies; for 39 years in the service of the Department of Agriculture, Washington; said to have been one of the first to make investigations regarding the adulteration of foods; died at his home, January 22, from senile debility, aged 90.

**William Lyman Faxon, M.D.** Harvard Medical School, 1862; assistant surgeon of the Thirty-second Massachusetts Volunteer Infantry during the Civil War; later a practitioner of Chicago; and from 1870 to 1892, superintendent of the National Sailor's Home, Quincy, Mass.; one of the incorporators of the Quincy Water Company; died at his home in North Reading, Mass., January 19, aged 72.

**Joseph K. Combe, M.D.** University of Virginia, Charlottesville, 1896; a member of the American Medical Association; and of the Association of Military Surgeons of the United States; and secretary of the Cameron County, Texas, Medical Association; acting assistant surgeon U. S. Army from 1898 to 1902; died at his home in Brownsville, Texas, January 19, from pneumonia, aged 38.

**Frank E. Englebry, M.D.** Cleveland College of Physicians and Surgeons, 1893; of Vermillion, Ohio; a member of the American Medical Association, and Cleveland Academy of Medicine; consulting physician to St. Clair Hospital, Cleveland; while answering a professional call during a blizzard, January 22, was struck by a train and instantly killed, at a street crossing in Vermillion, aged 45.

**James Mallock Elliott, M.D.** Long Island College Hospital, 1868; a member of the American Medical Association; charter member and ex-president of the Kalamazoo Academy of Medicine; for eight years a member of the board of pension examiners of Barry county, Mich.; died at his home in Battle Creek, January 28, from cerebral hemorrhage, aged 63.

**Lewis L. Sharp, M.D.** University of Pennsylvania, 1864; for several years president of the Burlington County (N. J.) Medical Society; from 1890 to 1892 a member of the legislature; chairman of the township committee and a member of the Board of Health of Medford township; died at his home in Medford, January 29, from cerebral hemorrhage.

**Ramon L. Miranda, M.D.** Ecole de Médecine, Paris, 1861; Madrid, Spain, 1861; a member of the Medical Society of the State of New York; and New York Academy of Medicine; and three times treasurer of the Academy of Sciences of Havana, Cuba; died at his home in New York City, January 25, from a cerebral hemorrhage, aged 73.

**William Henry Haze, M.D.** Western Reserve University, Cleveland, 1852; a member of the Michigan Legislature in 1857 and 1862; one of the first board of aldermen, and in 1866 mayor of Lansing; United States revenue assessor in 1870 and 1871; died at his home in Lansing, January 21, from cerebral hemorrhage, aged 93.

**Willard P. Naramore, M.D.** Starling Medical College, Columbus, Ohio, 1852; a member of the Illinois state legislature in 1852; and of the Illinois Constitutional Convention in 1861; president of the Lena (Ill.) bank; died at his home in Lena, January 29, from senile debility, aged 85.

**Albert R. Barrett, M.D.** University of Nashville, Tenn., 1877; of Germantown, Philadelphia; for many years national bank examiner; a veteran of the Civil War; died in the Homeopathic Hospital, Scranton, Pa., January 19, after an operation for disease of the stomach.

**Robert Herbert Fegers, M.D.** Rush Medical College, 1882; professor of dermatology in Keokuk Medical College; a member of the Tri-State Medical Society of Iowa, Illinois and Missouri; died suddenly at his home in Keokuk, January 28, from cerebral hemorrhage, aged 61.

**Nicola Collora, M.D.** University of Turin, Italy, 1898; formerly assistant to the obstetrical and gynecological clinics of Turin, Florence, Palermo, and Messina; of South Brooklyn; died in Seney Hospital, January 26, from septicemia due to an operation wound, aged 37.

**James S. Manley, M.D.** Cooper Medical College, San Francisco, 1861; of Glenwood Springs, Colo.; for many years district surgeon of the Denver and Rio Grande Railroad; died on his ranch near Glenwood, January 19, from senile debility, aged 80.

**Russell Dexter Bush, M.D.** Detroit Medical College, 1878; a member of the American Medical Association and ex-president of the Saunders County Medical Society; of Wahoo, Neb.; died at Lincoln, Neb., January 17, from nephritis, aged 57.

**R. Richard Nuckalls, M.D.** Nashville Medical College, 1859; assistant surgeon of the Thirtieth Tennessee Infantry, C. S. A. during the Civil War; died at his home in Station Camp, near Gallatin, Tenn., January 24, from nephritis, aged 73.

**Edmund Lowell Marcy, M.D.** Yale University, 1907; a member of the American Medical Association; and at one time editor of the *Yale Medical Journal*; died at his home in Buffalo, N. Y., January 24, from scarlet fever, aged 26.

**William Davis Hughes, M.D.** Howard University, Washington, D. C., 1884; of Washington, D. C.; formerly mayor of Troy, Ohio; and for many years an attorney; died at his home in Washington, D. C., January 24, aged 75.

**Thomas H. Wentz, M.D.** Jefferson Medical College, 1874; formerly a member of the Medical Society of the State of Pennsylvania; died suddenly at his home in West Philadelphia, January 29, from heart disease, aged 62.

**James Monroe Dicks, M.D.** Medical College of Georgia, Augusta, 1907; and valedictorian of his class; a member of the State Medical Association of Texas; died at his home in El Paso, January 24, from diabetes, aged 26.

**Abel D. Brooks, M.D.** Eclectic Medical College of the City of New York, 1872; a veteran of the Civil War; for a long time a justice of the peace on Grand Island, Buffalo; died at his home in Buffalo, January 15, aged 83.

**David Lawry Davidson, M.D.** Rush Medical College, Chicago, 1868; formerly a practitioner of Illinois and Missouri; died at the home of his daughter in Atlanta, Ga., Dec. 28, 1909, from cerebral hemorrhage, aged 66.

**Abraham C. Smith, M.D.** Pulte Medical College, Cincinnati, 1879; Eclectic Medical Institute, Cincinnati, 1879; formerly of Chicago; was found dead in his bed in Tulsa, Okla., Dec. 19, 1909, from asphyxiation by gas, aged 68.

**Rolon M. Fulwider, M.D.** Columbus Medical College, 1881; formerly a member of the Ohio State Medical Association; once mayor of West Liberty, Ohio; died in Urbana, Ohio, January 24, from heart disease, aged 55.

**Joseph Nare Letourneau, M.D.** Laval University, Montreal, 1889; formerly surgeon to Notre Dame Hospital, Montreal; a member of the New Hampshire Medical Society; died at his home in Laconia, January 13, aged 48.

**Stewart Church, M.D.** College of Physicians and Surgeons, New York City, 1870; a member of the Medical Society of the State of New York; died at his home in Brooklyn, January 17, from cerebral hemorrhage, aged 63.

**Benjamin F. Hill** (license, Washington county, Pa., 1881); surgeon of the One Hundred and Fortieth Pennsylvania Volunteer Infantry throughout the Civil War; died at his home in Candor, Pa., January 19, aged 82.

**Hamilton Scott Burroughs, M.D.** Jefferson Medical College, 1879; a member of the American Medical Association and College of Physicians of Pittsburg; died at his home January 26, from pneumonia, aged 57.

**Abram Columbus North M.D.** New York University, New York City, 1860; surgeon of the Seventh Georgia Infantry, C. S. A., during the Civil War; died at his home in Newnan, Ga., January 28, aged 71.

**Charles Lewis Hammond, M.D.** College of Physicians and Surgeons, Chicago, 1896; of Tonopah, Nev.; physician of Nye county; died in Lane Hospital, San Francisco, January 16, from erysipelas, aged 38.

**William Harvey Burke, M.D.** Fort Wayne (Ind.) College of Medicine, 1882; formerly a member of the Oklahoma State Medical Society; died at his home in Weleetka, Dec. 22, 1909, from gastritis, aged 58.

**James C. Metcalfe, M.D.** University of Louisville, 1850; for a long time president of the St. Vincent de Paul Society of Louisville; died at his home in that city, January 21, from pneumonia, aged 85.

**William H. Clendenen Teal, M.D.** University of Maryland, Baltimore, 1897; formerly a medical examiner in the Baltimore public schools; died at his home in Baltimore, January 28, aged 35.

**Alfred Sidney Allen, M.D.** University of Alabama, Mobile, 1881; a member of the Medical Society of the State of Alabama; died at his home in Deposit, January 10, from disease of the liver.

**David Peterson Bogart, M.D.** Eclectic Medical College of the City of New York, 1868; M.C.P. and S., Ont., 1869; died at his home in Whitby, Ont., January 16, from cerebral hemorrhage, aged 83.

**Augustus W. Stevens, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1881; a pioneer practitioner of Buena Vista county, Iowa; died at his home in Storm Lake, January 16, aged 78.

**Nelson W. Reynolds, M.D.** Marquette University, Milwaukee, 1898; instructor in the use of the *x*-ray in Marquette University; died at the home of his sister in Milwaukee, January 20, aged 36.

**Charles Thomson, M.D.** University of Maryland, 1867; for many years a practitioner of Middleburg, Md., but latterly of Baltimore; died in Frederick, January 15, from pneumonia, aged 67.

**Dennis Calhoun Atkinson, M.D.** College of Physicians and Surgeons, Baltimore, 1880; died suddenly at his home in McDade, Texas, January 19, from cerebral hemorrhage, aged 58.

**Edward Noble, M.D.** Indiana Eclectic Medical College, Indianapolis, 1886; formerly of Azusa, Cal.; died in the Los Angeles County Hospital, January 2, from tuberculosis, aged 69.

**Seth W. Beckwith, M.D.** Northwestern Ohio Medical College, Toledo, 1884; a member of the American Medical Association; died at his home in Toledo, Nov. 23, 1909, from paralysis, aged 54.

**Edward T. Balch, M.D.** Philadelphia College of Medicine and Surgery, 1865; and formerly professor of anatomy in that institution; died at his home in Santa Barbara, Cal., Oct. 11, 1909.

**Harris K. Thayer, M.D.** Louisville Medical College, 1892; a member of the Medical Association of Georgia; died suddenly at his home in Brooklet, January 17, from pneumonia, aged 40.

**Edward Raphael Joyce, M.D.** College of Physicians and Surgeons, New York City, 1905; died at his home in Lewiston, Maine, January 22, from cerebral hemorrhage, aged 29.

**William Grant Roberts, M.D.** Atlanta Medical College, 1866; a Confederate veteran; died in the hospital of the Soldier's Home, Atlanta, January 5, from cardiac asthma, aged 74.

**Frank Duane Summers, M.D.** Detroit Medical College, 1883; a member of the American Medical Association; died at his home in Detroit, January 20, from nephritis, aged 49.

**Daniel Webster Jackson, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1878; died at his home in Villisca, Iowa, January 8, from chronic nephritis, aged 61.

**Norton Brokaw, M.D.** Northwestern Medical College, St. Joseph, Mo., 1880; for many years a druggist of St. Joseph; died in a hospital in that city, July 1, 1909.

**Charles Emerson Jones, M.D.** New York Homeopathic Medical College, 1882; of Hartford, Conn.; died in Norwich, Conn., January 24, from nervous collapse, aged 54.

**James Robert Fowler, M.D.** Medical College of the State of South Carolina, 1884; a Confederate veteran; died at his home in Laurens, S. C., January 12.

**William Francis Rea, M.D.** 1892; formerly of Brooklyn, N. Y.; died at his home in Verona Lake, N. J., December 5, from cancer of the stomach, aged 42.

**Charles Henry Tasker, M.D.** Rush Medical College, 1884; formerly of Anoka, Minn.; died at his home in Minneapolis, January 13, from paralysis, aged 62.

**Ephraim Luellen, M.D.** Eclectic Medical Institute, Cincinnati, 1863; died at his home in Westfield, Ohio, January 13, from cerebral hemorrhage, aged 85.

**David G. Wilder, M.D.** Cleveland University of Medicine and Surgery, 1873; died at his home in Cleveland, January 14, from cerebral hemorrhage, aged 63.

**Luther Hansford, M.D.** Transylvania University, Lexington, Ky.; died at his home in Springfield, Mo., Dec. 10, 1909, from disease of the kidney, aged 82.

**William A. Wright, M.D.** Southern Botanico-Medical College, Forsyth-Macon, Ga., 1847; died at his home in Barnesville, Ga., January 13, aged 86.

**Edgar N. Potts, M.D.** Tulane University, La., 1870; a Confederate veteran; died at his home in Desiard, La., January 24, from pneumonia, aged 66.

**Frederick Samuel Hunter, M.D.** Miami Medical College, Cincinnati, 1888; died at his home in Toledo, Ohio, January 6, from pneumonia, aged 43.

**William J. Lee, M.D.** Tulane University, New Orleans, 1860; a Confederate veteran; died at his home in Abbeville, Ala., January 13, aged 71.

**Eben Behymer, M.D.** Eclectic Medical Institute, Cincinnati, 1871; died at his home in Mount Washington, Ohio, January 24, aged 65.

**James Robert Horn, M.D.** University of Nashville, 1856; died at his home in Keatchie, La., Dec. 31, 1909, from uremia, aged 80.

**W. J. Prendergast, M.D.** Laval University, Montreal, 1882; died at his home in Montreal, January 21.

# *Society Proceedings*

## MEDICAL SOCIETY OF THE STATE OF NEW YORK

*One Hundred and Fourth Annual Meeting, held at Albany, Jan. 25-26, 1910*

*(Continued from page 488)*

The officers elected were given in THE JOURNAL, Feb. 5, 1910, p. 475.

### President's Address to the Society: What Can We Do to Improve the Situation?

DR. CHARLES G. STOCKTON, Buffalo: The success of the physician has always depended on his ability to convince people, and he has a following in ratio to the extent of his command of public and private confidence. In these days, more than ever, we are devoting ourselves to the education of the community, not alone the individual members thereof, but society as a whole. An excellent instance of this is seen in the enaction of the pure food law in the face of the opposition of organized interests, its necessity having been shown not only to Congress but to the constituencies of the representatives. Another example is seen in the growing willingness of the people to obey quarantine laws. While there is much to be accomplished in the control of epidemics, the situation is steadily improving in proportion as the people are made to understand the necessities and to place confidence in the guidance of professional authority. In the study of the care of the insane and of the blind, the movement to do away with ophthalmia neonatorum, and the gain in the matter of educating defective children stand out among numerous examples of altered public opinion, the outcome of professional education and guidance.

In proportion to the extent we command public confidence, we assume the burden of responsibility. In New York State we have a membership of nearly seven thousand, but what of the other thousands who are profiting to a fragmentary extent only, it is true, by our efforts, and yet who stand apart? Can we not by some means represent a more united profession? Indifference is a crime. It is so because it favors wrong-doing and retards other advance. The demands are so increased that the average worker in the profession finds it difficult to maintain himself in that social stratum to which he belongs. This matter probably contributes toward some of the defects in the profession and is offered as an excuse for the spirit of commercialism that occasionally shows itself. This evil takes many forms. Among other things, it affects the question of fees. Medical service cannot be treated on a commercial basis. It has been said that physicians render a service that cannot be measured and that cannot be weighed, and within reasonable limitations people should pay according to their means. If this position is made tenable for the profession, it must keep itself absolutely free from all charges of improper interestedness and dishonorable transactions, for example the division of fees. A few surgeons and other specialists have adopted the practice of giving to the family physician who brings them a case for operation a certain proportion of the fee. In some places there is a competition among the surgeons who practically out-bid each other as to the amount that shall be returned to the family physician. This is done secretly, without the knowledge of the patient who pays the money. Reduced to its last analysis, it is bribery and graft. It is a temptation for men to select a surgeon, not because of his ability, but because of his willingness to divide. It tempts men to recommend for operation patients who should be treated otherwise. It tempts surgeons to operate when unnecessary; and it leads them to charge for their services not what they consider just remuneration, but excessive fees, in order that they may pay a percentage to the family physician. It leads to demoralization in the profession, is lowering of professional dignity, and would prove a death blow, if it were generally practiced, to the high-minded, righteous and honest of the profession in the guidance of the public. National, state and municipal governments will cease to be influenced by men who resort to such dishonorable methods in their private business relations.

Consultation in these days seems to have suffered from a solution of continuity. Consultation and cooperation among physicians should be widely practiced, yet for one reason or another, such is not the case. Sometimes a spirit of narrowness leads to disinclination for consultation, often doubtless for the purpose of sparing the patient expense. At other times, it may be from fear of a confession of weakness. The result of this is that the patient not infrequently asks for a consultation which mortifies the physician and puts him at a disadvantage. At other times the patient, unknown to the physician, selects his own consultant, thus producing an unfortunate situation. The consultant lacks information, which might be acquired from the attending physician, whereby the patient is the loser; or, if the consultant happens to be right in making the diagnosis, he may unintentionally injure the family physician in his explanation to the patient. We should attempt to foster a greater trust among our patients, and if our conduct be based on a disinterested attempt to reach scientific grounds, at the same time eliminating as far as possible personal grounds, we are on the safest course for all concerned.

### The Wassermann and the Noguchi Complement-Fixation Tests in Leprosy

DR. HOWARD FOX, New York, drew the following conclusions: 1. A positive Wassermann reaction is frequently obtained in cases of leprosy, giving no history or symptoms whatever of syphilis. 2. The reaction is at times very strong, inhibition of hemolysis being complete. 3. The reaction occurs chiefly in tubercular and mixed forms of the disease, especially in the advanced and active cases. 4. In cases of the maculoanesthetic and purely trophic type, the reaction is generally negative. 5. The value of the test is not affected in the slightest by the results found in leprosy.

### Splenomedullary Leucemia; Its Treatment by Roentgen Ray

Drs. Homer E. Smith, Norwich, and Dr. L. A. Van Wagner, Sherburne, reported a case with leucocytosis of 580,000. The patient was treated by the *x*-ray and given liquor auri et arseni bromidi in small doses, and after nine months of treatment the leucocytes numbered 8,030.

#### DISCUSSION

Dr. Alexander Lambert, New York City: I have watched a number of these patients and treated them, but with different results from those reported by Dr. Smith. Some apparently were cured and others were much improved, but those who improve, so far as I have seen, speedily relapse, and those who are apparently cured speedily, without any apparent reason, become worse, and in my experience do not remain alive. It does not make any difference what treatment is given these patients with leucemia. Their symptoms may be relieved for a time, but for some unknown reason they sooner or later die.

Dr. L. H. Neuman, Albany: My experience with the use of the Roentgen ray in these cases of leucemia is that we can bring about a decrease in the number of leucocytes, but how it is done we do not know. I have in mind a case in the hospital in which there were over 500,000 white cells, but with Roentgen therapy there was a gradual decrease until the leucocytes came down to nearly normal—8,500. I was congratulating myself on the success of the treatment when, without any assignable cause, the patient died suddenly. It seems to me that this leucocytosis in leucemia is a conservative process; that there are produced certain toxins as the result of the disease, and that these toxins bring about an increase in the leucocytes; that measures which simply reduce the number of leucocytes do not in themselves act in a curative way, and that we must look further than purely the question of leucocytosis to account for the symptom-complex which we call leucemia.

Dr. Henry L. Elsner, Syracuse: As the result of a fair experience, I am forced to the conclusion that even with *x*-ray therapy we are not going to cure these patients. Last year, at my suggestion, Dr. Schuyler reported before this society the case of a patient I saw with him in Utica, of marked leucemia of the splenomyelogenous type. The results with the *x*-ray were so surprising that I insisted on reporting a case at the end of a number of months of treatment, and the change was so prompt that we were encouraged to believe that this young girl would make a permanent recovery. The case ended just as those which have been mentioned by Drs. Lambert and Neuman. Within the past two months this girl developed acute symptoms and died. I count among my cases of leucemia of the lymphatic and splenomyelogenous type five cases in which the patients were supposed to have been cured by *x*-ray therapy. In these cases the remedy acted promptly despite the enormous lymphocytosis, but not one of those patients is alive to-day. While we should not discontinue *x*-ray treatment in these cases, still if we hastily conclude that *x*-ray therapy is going to cure the patients permanently we make a great mistake.

Dr. Allen A. Jones, Buffalo: If these cases are studied carefully, it will be found that the leucocytes will rise and fall, under no special plan of treatment. The rise may go as high as hundreds of thousands and fall down to eight or ten thousand.

Dr. Charles O. Boswell, Rochester: I have seen cases of leucemia of the splenomyelogenous type in which the same results were obtained from Fowler's solution. While working with Dr. Simon in Baltimore I saw a case in which the myelocytes disappeared from the blood under Fowler's solution, and the number of leucocytes greatly reduced, but the patient ultimately died. I have seen one leucemia patient die of terminal erysipelas.

Dr. Arthur Holding, Albany: I have seen in consultation eight cases of leucemia of the splenomyelogenous variety and two of pseudoleucemia. I have not treated any patients with leucemia of the lymphatic type. The two patients with pseudoleucemia died. Of the cases of splenomyelogenous leucemia, one was too far advanced to accomplish any results; two patients were symptomatically well, and subsequently died. Two became symptomatically well and passed from under observation; the others have improved and are under observation at the present time. The technic advocated now is that which was brought out largely through the efforts of Pancoast and Stengel, who insist that the spleen shall be avoided, and that the long bones shall be treated with the *x*-ray. I have the chart of a case in which the patient was brought to the office on a stretcher and expected to live only a short time. Soon after this treatment was instituted there was a fall in the leucocytes from 250,000 gradually working down to the normal limit. This patient under treatment lived three years and died. When one takes a patient who has been bedridden and gives him three years of life, so that he can walk around the street and attend to light duties about the house, the treatment is worthy of consideration. There is no question but that this treatment will take bedridden patients and put them on their feet and make them comfortable for six months or more, and in one case, as I have mentioned, for three years.

Dr. Homer Smith, Norwich: Most of these patients die with the exception of a few in whom spontaneous cures take place, either with arsenic or without it. Under the administration of arsenic there will be a disappearance of the myelocytes, but that will occasionally occur without any drug treatment. A small percentage of patients—say 1 per cent.—recover spontaneously without any treatment.

(*To be continued*)

## HOOKWORM CONFERENCE

*First Southern Health Conference, held in Atlanta, Ga., Jan. 18-19, 1910*

(*Continued from page 486*)

### What the Churches Can Do as Regards Pellagra

Dr. W. W. Landrum, Louisville, Ky.: Health is wealth. Those who have health are rich; those who do not have it are poor, and it is not within the province of many to buy back health when it has once been lost. Speaking on behalf of the churches, I wish to say, in the first place, that we are coming to emphasize more and more the present-day character of the word "salvation." Salvation is the biggest word in the education of the human race. Salvation is a present experience. It is something here and now. It relates to body as well as to mind and spirit. Salvation is the salvation of the man material, of the man intellectual, of the man spiritual. Salvation means the salvation of one's self, the salvation of one's family, the salvation of one's community, the salvation of one's country, the salvation of the world. I stand here, not to speak for one section of our common Christianity, but for all ministers of all subdivisions, the one great creed universal, to tell you we are deply interested in this conference. We are glad it is in the hands of competent men, who are doing all in their power to eradicate this disease from the South, because we believe that the South ought to produce not merely cotton and iron and corn and coal, but men; and thank God it has produced men in the past. In the golden days of the Republic it produced the highest order of men, and while we are interested in everything that concerns the prosperity of the South, we are more interested in the quality of its manhood. What higher ideal can we have of man than that he is sound in intellect, sound in heart, sound in his intellectual faculties and sound in his physical powers?

#### General Discussion

Dr. Fred J. Meyer, Jackson, Miss.: We have not progressed in our evolutionary development so much as the less favored East and North and West, and it is on account of the hygienic ignorance of the masses of our people. It is because the medical profession of the South in the past has failed to realize that its chief function is prevention and not cure; it is because of the hygienic ignorance of the masses that an epidemic visitation brought forcibly to our minds that the mosquito is the transmitter of malaria and of yellow fever. While this fact was known for several years, measures were not instituted to destroy mosquito life, and in many portions of the South precautionary measures are not taken to this moment, nor will they be, until an epidemic visitation is again on us. But above all, the besetting sin of the South is soil pollution. Archeologists, when they dig down deep into the bowels of the earth, where they find cities superimposed on cities, with strata of clay and sand and gravel, have yet to find a city, even prehistoric cities, but what they have exhibited some form of sewage disposal. It remains for us of the South to have progressed no further in this matter than the ancient Hebrews in their wanderings through the wilderness, as you may verify by reading Leviticus. I have frequently thought that of all the monuments that the genius of the ancients erected, the greatest was not the pyramids of Egypt, not the Coliseum of Rome, not the traditional Colossus of Rhodes, nor yet the hanging gardens of Babylon, but the cloaca maxima of ancient Rome, which carried off the sewage of the city in the days of the imperial Cesars. Throughout the South we see colonial residences that apparently have every advantage, but they lack proper drainage and sewage disposal, and consequently we continue to poison the earth, the air, and the waters under the earth, and we are paying the price, not only in typhoid fever, but in hookworm disease, which stands in an immediate relation to soil pollution.

What, then, is the duty of the hour? To educate by the system of hygienic instruction which had its origin in 1878 in Louisiana. It passed the experimental stage in 1897, when the first popular institute of hygiene ever held convened in an interior town, where for seventeen consecutive hours a lay audience sat and listened to lectures on sanitary topics, and at midnight adjourned to enable the ladies to retire, and reassembled at 12:30 to listen to lectures on sexual hygiene. This was done by skilful interweaving of musical numbers between the scientific papers, in order to break the strain on the lay mind. The system is based on the great principle that the sanitary safety of the state is the first duty—the old Roman maxim. It is the duty of the state to furnish that instruction. The sanitary world has, at last, recognized the force of the first principle, because at the International Congress on Tuberculosis, held recently in Washington, the resolutions adopted pronounced in favor of education in tuberculosis; but no civilized state has recognized the duty of the state to furnish the instruction, unless it be the states of Louisiana and Mississippi. In Louisiana, in 1906, the cooperation of the clergy in the campaign of education resulted in the enlightenment of public opinion in the infected areas of the year before, so that, for the first time, in the epidemic history of the South there was no recrudescence of the fever in the year succeeding the epidemic. In the town of Patterson, where almost every one had had the fever the year before, there was not an outbreak, although new people moved in. The one exception proved the rule. In a town of 15,000 people who failed to hold an institute and to take proper precautions against the mosquito, a case of yellow fever broke out, but by the prompt action on the part of the board of health, by the education of the masses and the cooperation of the commercial interests, the fever was extinguished in the middle of August and business resumed its normal sway before cotton season opened.

As practical men, we must turn our backs on the glories of the setting sun and face the rising sun of the new South, and in doing so we must throw off some of our passions and prejudices and false pride, which, in the past, kept us from accepting anything in the shape of a gift without looking the giver or givers in the face. I believe that it is our duty to cooperate with the donor of this munificent gift, which I believe was given in the spirit of the broadest philanthropy, and that it is our duty to aid and cooperate with those men to whom the fund has been entrusted. If we may aid them with our counsel, we would suggest that after defining the exact area of infection, that laboratories be established throughout the South, to aid the busy practitioner in finding out just where hookworm disease prevails. I think it would be unwise to attempt any effort to treat the afflicted to commence with, because it would absorb the fund, and perhaps antagonize practitioners of medicine, because many people who could afford to pay for treatment would take advantage of this fund. But the main proposition is to go out and educate the masses in the cause and prevention of the disease, and to lift by such education that great reproach which lies against us of constant soil pollution. If this is done, I believe that in four or five years public opinion will be so educated that legislative bodies will not be appealed to in vain.

Dr. J. J. Kinyoun, Washington, D. C.: While many of us are deeply interested in eradicating this scourge from the people, it will not be an easy task. It is going to be a long period of years before we shall commence to see the results. Do not for once believe that within five years, even under the most favorable propaganda of an educational nature, that beneficial results will be apparent from this campaign. We have to deal with a peculiar people, and it is essential to commence with our physicians as well as patients. I have had some experience in trying to convince physicians of the necessity of carefully examining patients affected with hookworms. The great hope I have of the future of the South is that from a systematized educational propaganda, and it must be carried on in such a way as to impress the laity regarding the medical aspects of this disease; and much is to be expected from lectures on the lay platform, from the pulpit, and from the rostrums of schoolhouses. The uplift which is bound to come through the education of the people against hookworm disease is going to benefit the whole South not only with regard to this disease but with respect to all other communicable diseases. When we conduct anything like a proper and vigorous campaign against hookworm disease, then we can eradicate typhoid fever as well from the rural districts. In so doing one thing begets another. When we get better drainage we will have fewer mosquitoes and less malaria, and when we eradicate malaria and typhoid fever and hookworm we will find that almost immediately the death-rate will be lowered.

Dr. William Weston, Columbia, S. C.: All physicians probably are acquainted with the work of Dr. Rotch of Harvard University in connection with students. A certain number of students at Annapolis broke down absolutely and were unable to keep up with their studies. He started to examine the epiphyses of these students and found they were not developed. In discussing the subject with Dr. Rotch he asked me when I returned to Columbia to study this phase of the subject in connection with hookworm disease. I did so. I have examined a number of patients who gave a history of long-standing hookworm infection, and even in those who have reached the ages of 18 and 20 the epiphyses are not developed. I took occasion to look into the records of these patients at school as well as those who worked in the mills, and I found they made poor time and their records were not so good in general as other workers. Their health in general was very poor. A bill has been introduced in the South Carolina legislature which requires that all children under the age of 18 shall hold a certificate of health, and that that certificate shall only be issued by the State Board of Health. It is hoped to get practical results from the passage of that bill.

Dr. F. W. Schnauss, Cecil Ga.: My observations regarding uncinariasis comprise 849 patients who have been treated during a period of 3 years. Of this number only 9 were colored patients. There are reasons for this. The farmers of South Georgia are generally white men, who own their small farms or rent them, and the negroes, with few exceptions, are employed largely in the lumber mill towns and turpentine camps, where they have privies, and hookworm disease is chiefly an affection of the farm, where seclusion and custom have not deemed it necessary to build privies and closets to prevent infection by means of groundítch. I am very skeptical as to any mode of infection, except through the skin. As a rule hookworm patients are stunted and undeveloped. In the more severe cases the patients show great loss of flesh. A medical student who was affected with the disease gained 40 pounds in a few weeks after treatment. The pallor in the more pronounced cases is striking; the patients are tallow-faced, weazened, and with a greenish cast, and an examination with the Talquist chart shows a loss of hemoglobin that is sometimes appalling. The mucous membranes are pale, as also the gums, lips, and conjunctivæ. A hemic murmur is found on auscultation, and dyspnea and tachycardia are frequent concomitant symptoms. The eradication of the disease can be accomplished by education, medication, and legislation. As the majority of patients are children who dislike nauseating drugs, I secure the preparatory cleaning out of the bowel by using the saccharin pink tablets of calomel, which come in varying strengths, flavored with wintergreen, and I also give phenolphthalein. After cleaning out the bowel I give either thymol in capsules or betanaphthol. I use the thymol like granulated sugar; if powdered too fine it packs in the capsules and passes through the gut like a bullet. I like betanaphthol, as it is not so pungent and does not need to be given in quite so large a dose, although I give large doses, 100 grains or more in three doses, two hours apart, and use enemata if the bowels do not move rapidly enough.

Dr. A. G. Fort, Lumpkin, Ga.: I have practiced in Stewart County, Georgia, for more than five years, and have had diagnosed and treated about 600 cases of pellagra. Stewart County has a diversified soil with its hills, valleys, broad areas of clay and sand. I consider that 25 per cent. is a low estimate for the number of pellagra patients. In the rural districts this disease affects the wealthy and poor alike, and as treatment costs something the wealthy are relieved and the poor continue to suffer, the disease spreading from one member of the family to another by infection from ground-itch. The phase of this subject which I wish to bring out is the economic and how best to reach the classes suffering. Those in good circumstances have no difficulty in securing treatment, but the poor and more ignorant classes are more or less careless and indifferent as to the treatment. Many have been treated gratuitously and their eyes opened to the benefits gained by a cure. I have had to treat more than 200 individuals gratuitously, and I have found patients of this class in a great measure indifferent, not realizing their condition and skeptical of benefits to be gained by treatment. A great deal of diplomacy is needed to reach them, but when their confidence is once gained and they are shown the good derived from treatment the way is paved to rid one small area of the disease. After securing the confidence of one family in a section the others can be more readily reached. For convenience I will divide the classes of infection in three divisions—mild, medium, and extreme—and will discuss them separately from an economic and social standpoint. Mild infection includes that class of cases in which practically all clinical symptoms are absent and the diagnosis is made only by finding the egg in the feces. To this class the term "lazy disease" does not apply, as many of these patients are industrious, although their physical ability to work is slightly impaired and their mental faculties are slightly dimmed. To this division usually belongs the wealthy and a large part of the middle class. By ridding them of this infection their physical capabilities are expanded and their mental faculties sharpened. Medium infection includes, in my section, the majority of all cases found among the whites and blacks, the latter predominating. Fully 60 per cent. of the cases seem to come under this division. These patients truly have the "lazy disease." Their physical ability is reduced by at least one-half and their mental capabilities in proportion. They present a few of the clinical symptoms common to the disease and eggs are abundant in the stools. After patients in this class are treated and cured their value as an economic factor is doubled. In the class of patients suffering with extreme infection belong usually the poor and ignorant of the white race and a few of the black race, the former predominating. The mortality of this class is heavy, as a few die from the disease itself, and more from some intercurrent disease. Their resistance to any infection is at a very low ebb and from an economic standpoint they are leeches on a community.

Now as to ways and means. First, interest the profession throughout the infected areas and demonstrate to them the means of diagnosis and the value of treatment. If all sections are alike with reference to this matter the percentage of physicians treating hookworm disease is small; about one physician to every 10,000 people. Second, interest the school authorities and have every pupil examined and treated. Call attention to the means of infection and have the authorities protect the sanitation of the school ground. Third, interest from an economic standpoint, the men who have many employed in their mills, factories and on their farms. Fourth, provide means of treatment for the poor and make it some capable man's business to see that they are educated as to its danger, benefits derived from treatment and means of prevention. With this done we can hope for great results from this crusade.

(*To be continued*)

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## WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

*Nineteenth Annual Meeting, Held at Omaha, Neb., Dec. 20-21, 1909*

(*Continued from page 399*)

### Extrauterine Pregnancy with Twins, Complicated with Ovarian Fibroid on Opposite Side

Dr. D. W. Basham, Wichita, Kansas, reviewed the literature on this subject, and reported the following case:

On April 5, 1909, Mrs. C., aged 34, was seized with sudden sharp pain in the lower abdomen. The pain was rapidly followed by pallor of the face, weak thready pulse, and hemorrhage from the uterus. The situation became alarming and Dr. Jordan, who was in attendance, summoned Dr. J. D. Clark; they agreed on the diagnosis of ruptured tubal pregnancy. The woman had missed a period, but had had a slight flow from time to time for several days, the flow having begun about two weeks after the missed period. Restoratives were administered; normal saline solution was used frequently. I saw her on April 7. The abdomen was tense; a mass of doughy consistency could be palpated in the cul-de-sac. There was rectal tenesmus and considerable pain in the abdomen. The pulse rate was 110 and the temperature was 100 F. There was still some flow from the uterus.

The abdomen was opened by the ordinary median incision. On incising the peritoneum there was a gush of fluid blood mixed with dark coagula. The pelvic cavity was filled with dark-red clots of blood. The left tube was ruptured toward the outer end and was still bleeding. The placenta was still within the tube. One fetus was hanging in the rent in the tube and another was still in the sac or the remains thereof. Each had its umbilical cord intact and still attached to the placenta. The right ovary gave rise to a fibroma the size of a guinea-hen's egg and was of dense consistency; the uterus was much hypertrophied and of a dark-red color. The pregnant tube was ablated. Hemostasis was effected by a clamp applied to the pedicle over which a running suture was placed, the clamp withdrawn, and the suture drawn tight and tied. The right ovary and accompanying fibroid were removed and the abdomen closed by three tiers of sutures. The postoperative history was satisfactory save a slight infection of the catgut sutures uniting the fascia in front of the recti, and a mild phlebitis of the left leg. The ultimate recovery was satisfactory.

#### DISCUSSION

Dr. R. C. Coffey, Portland, Ore.: About five years ago Dr. Jessie McGavin, of Portland, called me to operate on a patient with ruptured tubal pregnancy. On opening the abdomen I found a ruptured tube and the bleeding continuing the tube was removed. Previous to this the patient had made the demand that she be not unsexed. She was determined to have a baby, as she wanted to have a child, and would not consent to have the tubes destroyed. But this one we destroyed. In looking at the other tube we found another pregnancy in it, showing enlarged vessels going up to the growth. We supposed at first it was a tumor of some kind, but found that a large probe easily passed into the tube and on up, and it was attached to one side. We remembered her injunction and determined to try to save this tube. Therefore, we split the tube, removed the contents, scraped the tube with curette and sewed up the tube. I heard no more of the patient for nearly three years, when her mother came in as a patient, with her daughter, who, I noticed, was pregnant several months. She had that child and has had two others since.

DR. I. B. PERKINS, Denver: I had one case in which there was pregnancy in one tube and a large hematoma in the other tube. In the second tube I was unable to demonstrate any product of conception. How the hematoma got there and what it meant I did not know. I have had two cases in which pregnancy occurred in one tube and in the uterus at the same time. In one of these cases I was able to get the specimen with the product of conception, the little fetus in the sac hanging out of the opening of the tube, and to show it in that condition. Three days later, the ovule was passed from the uterus in a perfect condition, showing the fetus in the sac just as perfect as the one in the other. In the other case it was not quite so far along. I did not see the fetus from the uterus, but there was a placenta there, and the other one was removed from the abdomen about a week later.

DR. ARNOLD SCHWYZER, St. Paul, Minn: I wish to mention a case of extrauterine pregnancy in the wife of a brother practitioner. In this instance I was obliged to leave the tube, being asked by the husband to do so. Afterward I was called unexpectedly during the night and found the patient with extreme pallor. There was again a ruptured extrauterine pregnancy. The abdomen was opened at once and the fetus found on the same side in the stump of the tube we had left, the extrauterine pregnancy having developed about a year afterward. Howard Kelly states that he has not seen a case of intermediary extrauterine pregnancy. I had a case about six weeks ago in which I found in the edge of the uterine horn a rent going into the tube, and partly into the uterus—an extrauterine pregnancy. In this case there was the most profuse bleeding I ever saw while I was looking at it.

### Abuse of Hypodermic Stimulation During and After Surgical Operations

DR. HORACE G. WETHERILL, Denver: Given a patient in fair physical condition, prepared for operation with due care, skilfully anesthetized and operated on without undue loss of time or loss of blood, by a fairly skilful surgeon, and with a few rare exceptions hypodermic stimulation will be unnecessary. More than this, if unnecessary it is definitely injurious. So far as my observation and experience go, the majority of the patients who are operated on in hospitals need no hypodermic stimulation whatever during or after the operation, and, furthermore, they are injured if such stimulation is given them. The anesthetic, if given with judgment and skill, is for a time a stimulant of itself. This is particularly true of ether, for the first thirty or fifty minutes. If, after this time has elapsed and the amount of anesthetic is diminished, as should usually be done, the depressing effect is not great, provided severe hemorrhage does not occur. If it does occur, hypodermic stimulation to increase the blood pressure is, of course, definitely contraindicated while it lasts. After the patient is returned to bed and as he recovers from the anesthetic, with the nausea, vomiting and pallor incident to its administration, his pulse softens and, not uncommonly, becomes very thin and small, and even intermittent. It is under these circumstances that the inexperienced nurse and the unthinking doctor rush for the strychnin and spartein, and "shoot it into him." In reality, all that is needed is postural treatment, the external application of heat, and possibly water or salt solutions by rectum or stomach, depending on the nature of the operation which may have been performed. More than once have I known of instances in which I have believed that the balance has been turned against a desperately ill patient by such a course of injudicious and irrational hypodermic stimulation. I have seen a patient die in the characteristic clonic convulsions of strychnin poisoning, and on making a calculation of the amounts administered as recorded on the chart it has been apparent that all conception of the enormous aggregate dose of the poison had been lost in the excitement of the effort to "pull the patient through."

The best results and the lowest mortality of the busiest surgeons of to-day are attained by the simplest methods. Careful diagnosis and accurate estimates of the ability of the patient to undergo the operation are made. He is prepared with great care, the anesthetic is wisely chosen and skilfully given, he is operated on without avoidable exposure, delays, or hemorrhage, he is returned to a warm bed, placed in a favorable position, watched by a competent nurse and let alone. If he is restless and really suffering from shock or severe pain as he emerges from the anesthetic he may be given a moderate dose of morphin or atropin but, notwithstanding its stimulating and soothing effect, he is ordinarily better off if it can be omitted.

### Intrathoracic Goiter with Report of Cases

DR. C. H. MAYO, Rochester, Minn.: The transposition of the thymus and lower poles of the thyroid possibly acts as one of the causes of intrathoracic substernal goiter. These growths usually consist of diffuse colloid or encapsulated adenoma and when they are completely detached from the thyroid they are aberrant or wandering. Most of the symptoms occur from pressure on the circulation, the trachea, nerves or esophagus. These tumors are usually associated with an ordinary goiter, and probably one-half of them are discovered through complications arising during a thyroidectomy. As they are often enucleated with great difficulty, their removal may be followed by severe hemorrhage. Intrathoracic pressure obliterates the space; therefore, drainage should be brief.

*(To be continued)*

# *Medical Economics*

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

### The Coudrey Bill

Considerable mild excitement has been manifested in the editorial columns of the leading pharmaceutical journals for the past few weeks over the introduction in Congress of H. R. 13859, a bill introduced by Hon. Harry M. Coudrey, of St. Louis, amending the Food and Drugs Act. The discussion, while interesting, is unnecessary, since if the bill were passed in its present form it would be unintelligible to any lawyer, judge or jury. For instance, the second paragraph of the bill contains the following gem of "purest English undefiled," "a drug bearing the name in or out of the United States Pharmacopeia or National Formulary and branded to show a different standard of strength, quality or purity, it shall be a criminal act if this class of drugs are employed by druggists or manufacturers of proprietary or 'patent medicines' in prescriptions or preparations that are for the benefit of mankind or animals." This might be a very wise provision, if one only knew what it meant.

Apparently the intent is to provide for the compilation and publication, by the United States Government, of the United States Pharmacopeia and National Formulary, although this is not in the least what the bill says. What it really does say is that "the United States government should edit and publish the United States Pharmacopeia or National Formulary." One is irresistibly reminded of the young lady who wrote to Mark Twain: "Dear Mr. Clemens: I should like your photograph," to which the humorist replied, "My Dear Madam: Why don't you?"

### Dominion Registration in Canada

The following corrections have been received from our Canadian correspondent regarding an article which appeared in this department recently in relation to the Roddick bill. We take pleasure in making this correction in order that readers of THE JOURNAL may understand the exact situation in Canada:

"In THE JOURNAL, Jan. 1, page 76, on the topic of 'Dominion Registration in Canada,' it was an error to state that the Medical Council of Ontario was not represented at the Banff conference, as Dr. William Spankie, Kingston, was present as the duly accredited representative from the Ontario Council. It is an error to state that the Roddick bill. or the Canada Medical Act, provides for Dominion Registration as soon as five or more provinces agree to accept it. In the proposed amendments to the Canada Medical Act, which Dr. Roddick expects to have introduced at this session of the federal parliament, there is to be no change in that respect, the five or more province clause having been dropped and the original clause standing as before, providing that it shall become operative when 'all' the provinces have had passed in their respective legislatures the 'enabling' clause. Nor is it correct to state that the Canada Medical Act will substitute a central examining body for the numerous provincial boards. It will establish such a body. but each province will still retain its own examining board, although it is well understood that some of the provinces would be glad to do away with provincial examinations altogether."

## POSTGRADUATE COURSE FOR COUNTY SOCIETIES

*DR. JOHN H. BLACKBURN, DIRECTOR*
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

### Sixth Month—Fourth Weekly Meeting

Operations on Gall-Bladder and Ducts

Cholecystotomy: Indications, limitations, technic.

Cholecystostomy: Indications, technic in detail. Variations in technic. Mortality.

Cholecystectomy: Indications. Detail of technic. Mortality.

Cholecystenterostomy.

Choledochotomy.

Duodenocholedochotomy.

Operative technic indicated in (a) gall-stones in gall-bladder. (b) stones impacted in pelvis of gall-bladder, (c) stones in cystic duct, (d) stones in common duct, (e) stones in hepatic duct, (f) cancer of common duct, (g) cancer of gall-bladder.

### Monthly Meeting

The Indications for Operation in Gall-stone Disease.
The Significance of Jaundice in Gall-stone Disease.
Etiology and Diagnosis of Malignant Disease of the Bile Tract.

# *Medical Education and State Boards of Registration*

## COMING EXAMINATION

Wyoming: State Capitol, Cheyenne, *February* 16-18. Sec., Dr. S. B. Miller, Laramie.

### Missouri State Board of Health Upheld

The Supreme Court of Missouri on February 2, in a decision written by Judge Woodson, upheld the action of the State Board of Health in refusing to examine the graduates of Barnes Medical College, class of 1908, for license to practice medicine and surgery in Missouri. The board had refused on the ground that Barnes Medical College had not met certain laboratory requirements prescribed by the board. In the Circuit Court of St. Louis, Judge Muench ruled that the graduates of that year were entitled to examination; an appeal was made to the Supreme Court which reversed the decision of the Circuit Court. This decision holds that the State Board of Health has discretionary powers giving it the right to make regulations which it deems necessary.

### Tennessee May Report

Dr. C. A. Abernathy, secretary of the State Board of Medical Examiners of Tennessee, reports the written and oral examinations held at Memphis, Nashville and Knoxville, May 4-5, 1909. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 284, of whom 277 passed, including 77 non-graduates, and 4 failed, all of whom were non-graduates. Three candidates were rejected for permanent licenses, but were granted temporary licenses, including one non-graduate. Sixteen candidates were issued licenses through reciprocity and 18 were licensed under the exemption clause. The following colleges were represented:

*PASSED*

| College | Year Grad. | Per Cent. |
|---|---|---|
| University of Alabama | (1907) | 94.5 |
| Atlanta College of Physicians and Surgeons | (1902) | 93.3 |
| Atlanta School of Medicine | (1908) 75, | 80 |
| Chicago College of Medicine and Surgery | (1908) | 85.1 |
| *Northwestern University Medical School* | (1907) | 92.9 |
| National Medical University, Chicago | (1907) | 86 |
| Eclectic Medical College of Indiana | (1904) | 96.5 |
| State University of Iowa, College of Medicine | (1905) | 96.6 |
| University of Louisville | (1907) 92.7; (1908) 85.1; (1909); 75, 75.1, 87.2, 87.2. 87.4, 92.1, 92.7, 96. | |
| *Kentucky School of Medicine* | (1886) | 76 |
| *Kentucky University* | (1904) | 83.5 |
| Hospital College of Medicine, Louisville | (1903) | 87.6 |
| Louisville Medical College | (1907) | 91.4 |
| Tulane University of Louisiana | (1897) | 92.7 |
| University of Maryland | (1905) | 94 |
| Maryland Medical College | *(1908)* | *92.6* |
| Mississippi Medical College | (1909) | 83.4 |
| Washington University, St. Louis | (1909) | 93.1 |
| Columbia University, College of Physicians and Surgeons | (1889) 96.6; (1906) | 94.1 |
| University of North Carolina | (1905) 92.1; (1907) | 92.2 |
| Cleveland College of Physicians and Surgeons | (1908) | 92.6 |
| University of Pennsylvania | (1906) | 91.2 |

University of Nashville..(1903) 91; (1906) 92.9; (1907) 86; (1908) 93.2, 93.2; (1909) 78, 80.7, 80.9, 82.9, 83.4, 84.1, 85.4, 85.9, 86.1, 86.7, 87, 87.4, 87.7, 88.6, 89.6, 91.4, 92, 92, 93, 94.6, 95.2, 95.4.

Memphis Hospital Medical College..(1895) 79.6; (1908) 77, 82.6, 85; (1909) 80, 80.1, 82.2, 82.5, 83.7, 86.1, 86.4, 86.9, 87.2, 87.6, 87.7, 87.7, 88.7, 88.7, 89, 89, 90.1, 90.6, 91, 91.2, 91.7, 93.1, 93.1, 93.2, 94.

Meharry Medical College..(1905) 79.9; (1906) 75.6, 82.6; (1907) 81.1; (1908) 76, 77.1, 78, 82.7, 90.1; (1909) 77.4, 81.5, 83, 83.9, 86.2, 86.4, 86.7, 87.1, 88.1, 88.6, 88.7, 89, 89.1, 89.4, 90, 90.6, 91, 91.6.

Chattanooga Medical College..(1905) 82.6; (1906) 81.7, 82.7; (1907) 86.9, 87.5, 87.7; (1908) 85.6, 88; (1909) 83.7, 85.7, 86.7, 87.9, 88, 88, 89.1, 90.9, 92, 93.5, 93.6.

Vanderbilt University..(1909) 82.1, 87.6, 89, 89.4, 89.7, 90.5, 92.5, 93.1, 93.5. 93.6, 94.4, 94.6, 96, 96.7.

University of Tennessee..(1906) 78.2; (1907) 90.2; (1908) 81.7; (1909) 77.1. 80.4, 84.1, 89.2, 90.2, 93.

Tennessee Medical College..(1906) 75.6; (1907) 89.2; (1908) 77.6, 85.7; (1909) 81.1, 83.5, 84.1, 85, 89.4, 89.6, 90, 90.4, 91.7, 91.9, 92.9, 94.2, 95.5.

Knoxville Medical College..(1905) 88.1; (1909) 88.7, 89.7, 91.1, 91.4, 92.

University of the South..(1902) 96.1; (1905) 80; (1908) 77.2, 83.6, 88. 88.7.

College of Physicians and *Surgeons*, Memphis..(1907) 75; *(1909)* 88.7, 91, 94.1, 97.1.

University of West Tennessee..(1905) 83; (1908) 83.1, 84; (1909) 89.4. 89.5, 91.5.

Chattanooga National Medical College*..........(1908) 85.1

* This college was reported to have suspended in 1904.

CONDITIONED; *GRANTED TEMPORARY* LICENSES

| College | Year of Grad. |
|---|---|
| Chattanooga Medical College | (1909) |
| Memphis Hospital Medical College | (1909) |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Georgia College of Eclectic Medicine and Surgery | (1902) | Georgia |
| Rush Medical College | (1902) | Illinois |
| American Medical Missionary College | (1901) | Nebraska |
| Indiana Medical College | (1880) | Georgia |
| Louisville Medical College | (1886) (1896) | Kentucky |
| Hospital College of Medicine, Louisville | (1905) (1907) | Kentucky |
| University of Michigan, College of Medicine | (1904) | Nebraska |
| University of Nebraska, College of Medicine | (1904) | Nebraska |
| Cornell University Medical College | (1900) | Kentucky |
| University of Pennsylvania | (1900) | Illinois |
| Chattanooga Medical College | (1900) (1903) | Kentucky |
| Meharry Medical College | (1907) | Georgia |
| Knoxville Medical College | (1904) | Georgia |

LICENSED UNDER EXEMPTION CLAUSE

| College | Year of Grad. |
|---|---|
| | (1885) (1890) |
| Louisville Medical College | (1875) |
| University of Louisville | (1888) |
| Baltimore Medical College | (1889) |
| Bellevue Hospital Medical College | (1857) (1889) |
| Eclectic Medical Institute, Cincinnati | (1890) |
| Tennessee Medical College | (1894) (1895) |
| Memphis Hospital Medical College | (2, 1888) |
| University of Tennessee | (1890) |
| Chattanooga Medical College | (1880) (1887) (1889) |
| Vanderbilt University | (1895) (1906) |
| University of Nashville | |

# Book Notices

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History of Yellow Fever. By George Augustin, Assistant Secretary Louisiana State Medical Society. Cloth. Pp. 1194, with illustrations. Price, $6.00. New Orleans: Published for the Author by Searcy & Pfaff, 724 Perdido Street, 1909.

In this book of nearly 1,200 pages, the author, who is not a physician, has compiled an immense mass of historical notes and data on yellow fever. In addition the work gives an account of other pestilential diseases and of the great epidemics recorded in history. The book is divided into five parts: Part 1 contains general observations on pestilential diseases, the great epidemics, insects as propagators of disease, and definitions of technical terms such as endemic epidemic, the difference between contagion and infection, etc. The book contains much of interest to the layman and this definition of terms will contribute to an understanding of what follows. Part 2 discusses the geographic limits and nomenclature of the disease and the results of the examination of the literature as to its geographic origin, without, however, coming to any definite conclusion on the matter. An interesting chapter in Part 3 is that in which Major W. C. Gorgas, in charge of sanitation in the Canal Zone, shows that yellow fever has not heretofore been transmitted to Asiatic ports because there is little direct travel from South America to Asia, and that the possibility of its transmission after the completion of the canal may be somewhat increased; with proper sanitary precautions exercised in regard to vessels passing through the canal, however, this danger should not be great. The remainder of Part 3 gives briefly the history of yellow fever in each country of the world and each state of the union which has at any time been within the zone of its incidence. This completes the historical part of the book, the completion of which has evidently involved an immense amount of reading and research. A full bibliography is given, which will prove of great assistance to any one desiring to study or write on the subject. Parts 4 and 5 consist of a number of separate papers by Patton, Kohnke, Pothier, H. P. Jones, Chassaignac, Solomon and Mayer concerning various phases of the epidemic of 1905 in Louisiana and the neighboring states, and covering the etiology, sanitary prevention, pathology, diagnosis, prognosis and treatment, as well as the Louisiana method of hygienic education in regard to yellow fever. These chapters constitute a brief but comprehensive text-book on yellow fever by recognized authorities on the subject.

The book is printed in large type on good paper and contains many statistical tables and charts. It might have been improved in some respects by a little judicious editing. An author trained in medicine would have drawn conclusions of more value, perhaps, from the historical matter and would not have fallen into the error of calling St. Anthony's fire a form of bubonic plague. The work is an ambitious one for a layman to have undertaken, and altogether is very creditably done, and is valuable as a collation of the historical facts concerning a disease that will perhaps at no distant day be of interest historically only.

A Practical Treatise [illegible] L. Webster Fox, M.D., LL.D., Professor of [illegible] edico-Chirurgical College. Cloth. Pp. 807, [illegible] $6. New York: D. Appleton & Co., 1910. [When we printed announcement of this book in Books Received, January 1, we erroneously stated the price as $4. We here quote the correct price—$6.]

This book presents the subject of ophthalmology in a comprehensive manner. It includes references to the many researches and advances which have been made in this department of medicine and surgery in recent years. Since it is intended for students and general practitioners, the anatomy, physiology and bacteriology of the eye have been treated with sufficient thoroughness for the character of the work and its purposes.

In chapter 20 are discussed the ocular manifestations of constitutional diseases such as syphilis, tuberculosis and Bright's disease, and in diseases connected with particular systems, such as the digestive and reproductive systems, and also ocular manifestations in infectious diseases. The importance of the relations of the eye to general bodily conditions is emphasized.

Laboratory technic is discussed more fully than it usually is in most works of this character, and full directions are given for the use of instruments and appliances, methods of preservation, preparation and examination of specimens, etc.

Operations and methods of treatment are described fully and clearly. The operation for extirpation of the lacrimal sac is especially lucid. The work is profusely illustrated, and the illustrations are especially fine and well printed, many being in colors. Of more importance, they are of practical value, and not of the "padding" kind. The text is concise and readable and mechanically the book is above the average.

The author is to be commended for the fact that in the references to the work of other authors and investigators, he has given due prominence to English-speaking ophthalmologists, which is not the rule in most books on ophthalmology, and the work of Americans is recognized. The book is eminently practical in every way and is worthy of commendation and can be recommended to medical students, to general practitioners and to ophthalmologists.

Lehrbuch der topographischen Anatomie für Studierende und Aerzte. Von Dr. H. K. Corning, Professor E. O. und Prosektor an der Universität Basel. Second Edition. Cloth. Pp. 767, with 653 illustrations, 424 in colors. Price, 16.60 marks. Wiesbaden: Verlag von J. F. Bergmann, 1909.

While not intended as a complete atlas of human anatomy, this book abundantly fulfils the purpose expressed in the title. It contains a large number of carefully selected illustrations, most of which are original and many in colors. They are scarcely inferior to, if not quite the equal of those in, Spalteholz' Atlas. In studying the location of the heart in the living subject, the new method of orthodiagraphy, or outlining the organ by a specially adapted Roentgen apparatus, is briefly discussed and its results compared with those of other methods. Variations, physiologic and pathologic, and anomalies are given due importance or properly emphasized. Figure 191 shows the position and relations of cervical ribs, which are considered in the text, and Figure 363 is from a case of "*situs inversus totalis thoracic et abdominis.*" Among Americans from whose works illustrations have been selected are the names of Piersol, Mall and Brödel. At the end of each section is a brief bibliography of the works considered best for further reference. The book is printed on thin paper of excellent quality, with good, clear type and in a very readable style. There is a commendable lack of padding.

Atlas der rectalen Endoskopie. Von Dr. Arthur Foges, Wien. 1. Teil. 40 Mehrfarbige Lichtdruckbilder auf 20 Tafeln und 7 Abbildungen in Texte. Paper. Pp. 62. Price, 14 marks. Wien: Urban & Schwarzenberg, 1909.

Professor Gersuny, in a foreword to this atlas, says that, from the time of Hippocrates until within a few years, methods of examination of the rectum have undergone very little change. A great betterment in this regard began with the study of proctoscopy about twenty years ago, and, during the past few years such improvements have been made in proctoscopic methods and instruments that it is possible to-day for any physician even with little previous practice to make satisfactory examinations.

Dr. Foges has enjoyed unexcelled advantages in the selection of cases for illustration from the enormous medical and surgical clinics of Vienna. The 40 illustrations of this, the first part of the atlas, have been drawn from life by the artist Wenzel and colored as seen by the artificial light of the endoscope. With each illustration there is a concise case-history and description of digital and endoscopic findings. The technic of rectal endoscopy is thoroughly and clearly set forth with full description of the necessary instruments.

Modern Materia Medica and Therapeutics. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine, Woman's Medical College of Pennsylvania. Fifth Edition. Cloth. Pp. 646. Price, $3.50. Philadelphia: W. B. Saunders Co., 1909.

In the fifth edition of this work some new remedies have been described and new formulas added. The old matter has been revised and much of the section on the action and uses of drugs rewritten. Serums and vaccines are treated in accordance with present knowledge. In the section on measures other than drugs it is to be regretted that in connection with enteroclysis the drop method of proctoclysis could not have been mentioned. Mechanically the book is excellent and the arrangement good. It is a practical book for student or practitioner.

# Medicolegal

### Liability for Death After Failure to Provide Required Ambulance

The Supreme Court of Pennsylvania says that in the case of Lenahan and wife vs. Crescent Coal Mining Co. (74 Atl. R., 58), a son of the plaintiffs, a boy about 15 years of age, was severely injured by being struck by a runaway car in the defendant's coal mine. He was brought to the surface and left in the engine house about half an hour, when he was placed on a stretcher, two quilts thrown over him, and he was then carried by some workmen a distance of about one mile to his home. The day was cold and sleety, and the evidence tended to show that during the half hour required to make the journey the clothing of the men, and the covering over the boy, became wet and cold. A physician who was called to attend him testified that the boy's leg was so badly crushed that the only hope at all would be in amputation, but he was in a dying condition at the time as the consequence of shock, as the result of exposure and accident. The negligence charged against the company was its failure to provide an ambulance at its mine, as required by the Pennsylvania statute of June 2, 1891, by which the boy might have been promptly and carefully removed to his home. after the injury. Counsel for the company contended that the evidence that the death of the boy was due to this neglect to provide an ambulance was not sufficient to be submitted to the jury. The trial judge instructed the jury that the substantial question in the case was, "Did this boy die by reason of the exposure to which he was submitted, by not being provided with an ambulance, or because of the injury inflicted by the car?" He then brought to their attention the testimony as to the condition of the boy after he was struck by the car, and before he was taken home, and pointed out to them that if the injuries were necessarily fatal, and if he would not have recovered, however carefully he might have been handled during the removal, then the verdict should be for the company; that the verdict could be in favor of the plaintiffs only on the proviso that it was the exposure during the removal to his home that caused the death of the boy. In all this, and the submission of the case to the jury, the court does not see that the judge committed any error, and affirms a judgment for the plaintiffs for $1,924.50.

### Insanity, Intoxication and Epilepsy as Defenses to Crime—Admissibility of Evidence—Expert Testimony

The Supreme Court of Pennsylvania says that in the homicide case of Commonwealth vs. Snyder (73 Atl. R., 910), there were offers of evidence to show that the defendant, a young man who had passed his majority, in the early years of his life was subject to frequent attacks of convulsions or spasms, which for the time being rendered him unconscious, that after his twelfth year the attacks became less frequent, much milder in form, never attended with unconsciousness, that he was still subject to these attacks in modified form, and that he suffered one as recently as the day before the crime was committed with which he was charged. This evidence was to be followed by medical expert opinions, predicated on the facts proposed to be shown as to the character and frequency of these attacks, that they were epileptic seizures, and further, that, because of this infirmity and the added circumstance, already appearing in the evidence, that the defendant had been drinking during the afternoon and evening of the occurrence, if it was he who did the killing, he was at the time acting under an uncontrollable epileptic impulse during which it was impossible for him to distinguish right from wrong, and during which it was impossible for him to deliberate or consider the nature and consequence of his act.

The court holds that these offers of evidence were properly rejected. The offers, it says, associated and combined two mental conditions which need always to be clearly distinguished where the effort is to refer an illegal act to their joint influence—insanity and intoxication. The former excuses the act. The latter at most can only mitigate its criminality. The unsoundness that excuses must be so great as to control the will of the subject and deprive him of free moral action. When this mental condition has been shown, the defense is complete and absolute, and it helps nothing to show in addition that the unfortunate subject was intoxicated as well. When the unsoundness is not of the degree which exempts from legal liability, it helps nothing to show intoxication by way of excusing.

It may be a physiological fact that one effect of epilepsy is to produce a state of mind easily excited by provocation, and that this state of mind is intensified by intoxication to a degree that would be unexpected in one not epileptic from the same amount of drink; but except as the epilepsy can be shown to have resulted in an unsoundness, which by itself would excuse an act, it cannot become a factor in determining the question of guilt or innocence. The epileptic who is not shown to be insane can no more escape liability for his acts done while intoxicated than can one not so affected. Were it otherwise, it would follow that in every case where intoxication is set up a necessary inquiry would be the susceptibility of the party to intoxicating influence; and the question of guilt would be made to depend on peculiarity of individual temperament as affected by drink. The law knows no such doctrine. It does not divide men into classes according to temperament or intellect, judging some more favorably than others, but it judges all alike.

It followed that in ruling on the offers which were made to show mental condition which would excuse, the court could have no regard to what was therein included as showing intoxication. No more could the expert witnesses in forming their opinions. And yet the offers without the expert opinions could have served no purpose whatever. The facts proposed to be shown were to be introduced for no other purpose than to lay the foundation for such testimony based on the concurrence of disease and intoxication. Any such opinion based on one or the other of these alone would not be within the offer. If based on intoxication alone, it would be valueless, for that in law does not excuse. It would be but little better if based on the testimony as to the defendant's epilepsy, for the court would have been bound to hold that whatever the medical expert might say, the law derived no immediate presumption of insanity from the fact of epilepsy, but left the insanity to be proved as any other defense, not by secondary evidence, which at best this would be, but by evidence establishing the direct fact.

Again, the court says that intoxication is a matter of degree. It may be so mild as to disturb normal mental action but slightly; again, it may be so deep that the subject is almost, if not entirely, without consciousness. Between these two extremes there are many degrees. Mere intoxication does not imply loss of power to form specific intent; and therefore the evidence offered here was irrelevant, the offer disclosing nothing as to the degree of the defendant's intoxication.

# Current Medical Literature

## Medical Record, New York

*January 29*

1 Laryngologic Work of the British Medical Association and of the Sixteenth International Medical Congress in 1909. D. B. Delaven, New York.
2 *Importance of Correct Diagnosis of Diseases of the Eye. A. E. Davis, New York.
3 *Peculiar Province of Ergot. A. T. Livingston, Jamestown, N. Y.
4 *Anatomic Hereditary Peculiarities as an Etiologic Factor in Deflected Nasal Septa and Accessory Sinus Disease. J. G. Wilson, New York.
5 Spondylitis *Deformans*. S. Epstein, New York.
6 Hookworm Infection Endemic in New York. H. Brooks, New York.
7 *Letters to a Neurologist (continued). J. Collins, New York.

**2. Correct Diagnosis of Diseases of Eye.**—Davis claims that intestinal toxemia is a contributing factor in many eye affections, including those of all the structures of the eye. The remedy is strict diet, and antiseptics for the intestinal troubles. Affections originating in the accessory nasal sinuses also affect the eye conditions markedly. Troublesome asthenopia and conjunctivitis result from sinus troubles and are readily relieved by removal of the sinus disease.

3. **Peculiar Province of Ergot.**—Livingston claims that the peculiar province of ergot is to stimulate diseased rather than normal unstriped muscle. He prefers the less refined preparations, since some principle seems to be removed by standardization.

4. **Anatomic Hereditary Peculiarities.**—Wilson is of the opinion that the accessory nasal sinuses do not at present subserve any specific useful purpose, but are to be classed among the disappearing or vestigial organs, which facts largely account for their susceptibility to infection. The presence of deviated nasal septa is probably equally common in all races, becoming pathologic only in those races which are congenitally narrow nosed. The cause of congenitally narrowed air passages and deviated septa is primarily developmental, and finds its true explanation in the fact that the brain case is being developed at the expense of the bones of the face and olfactory apparatus.

7. **Letters to Neurologist.**—Collins receives a letter from a female patient who thinks that she is suffering from dual personality, which has led her to show a saintly nature in one phase and a foolish and lying one in the other. She thinks she must be crazy. The neurologist tells her that conflict between good and evil goes on in every individual; heaven and hell dwell within our own hearts. The good must be fostered, the evil suppressed. She must fight her battle against herself daily with courage and patience.

### Boston Medical and Surgical Journal

*January 27*

8 Correlation of the Digestive Functions. W. B. Cannon, Boston.
9 Examination of the Feces in Clinical Work. H. F. Hewes, Boston.
10 Three Cases of Sporadic Elephantiasis of the Lymphatic Type. G. C. Shattuck, Boston.
11 Infectious Diseases and the Mouth. W. R. Woodbury, Boston.

### New York Medical Journal

*January 29*

12 *Administration of Drugs with Regard to Absorption and Elimination. W. Brady, Elmira, N. Y.
13 Malignant Growths of the Sigmoid and Rectum. J. F. Erdmann, New York.
14 *Treatment of Spastic Paralysis by Resection of Posterior Spinal Nerve Roots. L. P. Clark and A. S. Taylor, New York.
15 Aspects of the Serodiagnosis of Syphilis. J. G. Fitzgerald, Toronto.
16 The Prostate (A Summary). B. M. Ricketts, Cincinnati.
17 Recent Advances in Roentgen-Ray Diagnosis. C. L. Leonard, Philadelphia.
18 Typhoid in Children. H. Heiman, New York.
19 *Chronic Diarrhea Due to Pyloric Insufficiency Successfully Treated with Hydrochloric Acid. E. Paller, New York.
20 *Total Absence of the Adrenals. C. R. Love, Brooklyn.

12. **Absorption and Elimination of Drugs.**—It is emphasized by Brady that to obtain the full benefit of the administration of drugs in disease it is quite as necessary to know the frequency as it is to know the quantity of dosage. This knowledge may be gained only from a careful study of the absorption and elimination of drugs and observation of their effect on cases in actual practice. Possession of such knowledge renders the physician more self-confident in his management of the sick.

14. **Treatment of Spastic Paralysis.**—By means of unilateral laminectomy Taylor has resected the posterior nerve roots three times in the cervical region, the posterior roots on both sides from the seventh to tenth dorsal inclusive without damage to the cord proper, in one case, and the lumbar roots on one side in one case. These patients have shown practically no shock, and the wounds have healed promptly by primary union, even though one patient had locomotor ataxia of some years' standing. In each of these cases the escape of spinal fluid when the dura was opened was very free but neither then nor afterward was there any appreciable effect noticeable in the patient's condition. This operation properly performed is said to give ample room for any exploratory operation on the cord, for the removal of many tumors, and in the case of tumors too large for this route, indicates just which laminæ of the opposite side must be removed to render easy the extirpation of the tumor.

The operation is recommended by Taylor for consideration in treating all degenerative lesions *per se* of the pyramidal system, attended by severe spastic palsy, cerebral as well as spinal. One needs, however, to study each case closely and adapt the operation to the particular case with full knowledge of the ends sought. The relation of the spastic and paretic elements in each case needs to be thoroughly studied. The removal of contractures and restoration of an approximately normal breadth of excursion in the movements of limb segments, and with the elimination of the very perturbing defensive flexor reflexes and removal of associated movements (associated with voluntary efforts); and finally, last but not least, with the return of voluntary motion, a basis for the acts of standing and walking. Obviously, in congenital cases in which there has been no experience of this sort, the prognosis is much less favorable.

19. **Chronic Diarrhea Due to Pyloric Insufficiency.**—Palier is now convinced that there is such an affection as pyloric insufficiency, though it is denied by some authors. He reports a case which he thinks proves the efficiency of the administration of hydrochloric acid in this disease. The patient was allowed a liberal diet with plenty of water, including even small amounts of fresh vegetables to guard against scurvy, and as medication hydrochloric acid was given. The patient was, in addition, fitted with an abdominal belt which proved grateful to him. The patient took only ten drops of hydrochloric acid twice daily after meals, and then only once after supper. He could so well regulate his bowels by it that by taking fifteen drops of it twice daily the bowels would become costive, and by diminishing the dose they would move again.

20. **Total Absence of Adrenals.**—The patient, a woman, aged 52, on September, 1902, noticed that her hands frequently became cold and discolored. In January, 1903, the joints of fingers and wrists became stiff and swollen; during April she suffered from pleurisy, and one month later noticed that the skin of the entire body was becoming darker (Addison's disease), the abdomen enlarged, and she discovered a slight discharge from the umbilicus. The skin grew darker and harder (scleroderma). The joints of the fingers and wrists became almost immovable and several of the finger joints ulcerated, attended with a purulent discharge (Raynaud's disease). She suffered intensely with the pain, cold and stiffness in all the joints of the extremities. She became emaciated and the whole integument became dry, hard and cold.

Under treatment with desiccated suprarenal capsule immediate improvement was noticed. The ulcerated joints healed, pain in them ceased, and they became more limber. The skin softened and grew lighter. Improvement continued for about one year, when the patient complained that the powder disturbed her stomach and refused to continue the drug. From this time she grew gradually worse and the previous ulcerated, stiff, cold and painful condition of the joints returned, associated with the increased pigmentation and hardness of the skin. She died suddenly, Dec. 14, 1906. At the autopsy no trace of the adrenals could be found.

### Northwestern Lancet, Minneapolis

*January 15*

21 Administrative Problems in Relation to Public Health. W. Wyman, Washington, D. C.
22 *Right Inguinal Hernia and Concurrent Appendicitis—Personal Experience in Seventy-six Cases. W. Courtney, Brainerd, Minn.
23 *Sterilization of Habitual Criminals and Degenerates. B. Foster, St. Paul.

22, 23. Abstracted in THE JOURNAL, Nov. 20, 1909, pp. 1847, 1850.

### Kentucky Medical Journal, Bowling Green

*January 1*

24 Surgical Cure of Cancer of the Gastrointestinal Canal. W. J. Mayo, Rochester, Minn.
25 *Indications and Limitations of Local Anesthesia in Anorectal Surgery. S. G. Gant, New York.
26 *Clinical Diagnosis of Amebic Dysentery. C. D. Render, Louisville.
27 *Treatment of Chronic Amebic Dysentery. G. S. Hanes, Louisville.
28 *Diagnosis and Treatment of General Peritonitis. J. R. Wathen, Louisville.

29 *Etiology and Pathology of the Various Toxemias of Pregnancy. W. A. Jenkins, Louisville.
30 *Treatment of the Toxemia of Pregnancy. E. Speidel, Louisville.
31 The Combined Course. J. W. Pryor, Lexington.
32 Cost of Venereal Infection as Viewed by the General Practitioner. C. H. Vaught, Richmond.
33 Cost of Venereal Infection as Viewed from the Standpoint of the Lawyer. R. W. Bingham, Louisville.
34 Cost of Venereal Infection as Viewed by the Minister. E. L. Powell, Louisville.
35 Cost of Venereal Infection as Viewed by the Sociologist. J. H. Hager, Louisville.

*January 15*

36 Army Medical Work in the Philippines. H. McConathy, Louisville.
37 Splanchnic Arteriosclerosis. O. P. Nuckols, Louisville.
38 Pleonexia. J. H. Peak, Louisville.

25. Abstracted in THE JOURNAL, Nov. 13, 1909, p. 1682.

26, 27, 28, 30. Abstracted in THE JOURNAL, Nov. 27, 1909, pp. 1853, 1854.

29. **Various Toxemias of Pregnancy.**—Jenkins classifies all toxic manifestations that occur during and are induced by the pregnant state, under the head of toxemias of pregnancy; for example, pernicious vomiting of pregnancy, eclampsia, acute yellow atrophy of the liver occurring in pregnancy, and the so-called toxic or tubal nephritis of pregnancy. He gives a detailed consideration of the possible factors which may become causative agents, namely, the placenta, autointoxication, the fetus, the amniotic fluid, disease of or deficient action on the part of the parathyroid bodies, bacteria, syncytial elements, etc. In discussing the pathology, Jenkins takes up those cases that are milder in character in which there is present every evidence of a systematic saturation, due to the accumulation of certain retrograde products of metabolism not necessarily accompanied by gross organic changes. He then takes up the severer or fatal cases, with marked and extensive organic changes primarily in the liver and kidneys; secondarily, in the spleen, brain and other organs.

### Virginia Medical Semi-Monthly, Richmond

*January 7*

39 Suturing of Nerves. J. S. Horsley, Richmond.
40 Fractures Involving the Elbow Joint. A. R. Shands, Washington, D. C.
41 Borderline Phthisis. C. F. Beeson, Roswell, N. Mex.
42 Case of Fracture-Dislocation of the Spine. H. S. MacLean, Richmond.
43 Treatment of Typhoid in Private Practice. L. H. Pate, Lake Arthur, N. Mex.
44 Vaginal Cesarean Section for Eclampsia. J. F. Moran, Washington, D. C.

### Annals of Surgery, Philadelphia

*January*

45 *The Blood in Surgery. J. G. Mumford, Boston.
46 *Two-Stage Principle in Operative Surgery. H. Lilienthal, New York.
47 *Effect of Scarlet Red in Various Combinations on the Epitheliation of Granulating Surfaces. J. S. Davis, Baltimore, Md.
48 *Chloroma of the Jaws. H. A. Bruce, Toronto.
49 Cervical Subcutaneous Cavernous Hemangeioma. J. B. Carnett, Philadelphia.
50 *Aneurism of Internal Carotid Treated by Matas' Method. C. G. McMullen and E. MacD. Stanton, Schenectady, N. Y.
51 *Operation for Paralytic Shoulder Joint Due to Infantile Paralysis. O. G. T. Kiliani, New York.
52 *Surgical Treatment of Empyema Thoracis. C. E. Tennant, Denver.
53 *Pancreatitis and Pancreatic Reaction of Cammidge. J. T. Pilcher, Rochester, Minn.
54 *Paralytic Ileus as Sequel of Fractured Ribs. J. E. Adams, London, England.
55 *Fibrinous Calculi in Kidney. H. Gage and H. W. Beal, Worcester, Mass.

45. Abstracted in THE JOURNAL, July 24, 1909, p. 318.

46. **Two-Stage Principle in Operative Surgery.**—The operations which Lilienthal believes are suitable for division into two or more stages, are (1) for intracranial disease; (2) for intrapulmonary disease; (3) for obstruction on the bile passages; (4) for obstruction at the pylorus; (5) for malignant disease of the rectum; (6) for hypertrophy of the prostate; and (7) for suppuration in the kidney (nephrectomy). Lilienthal says that two valuable points in operative surgery are: First, arrange the operation whenever possible so as to permit cessation of the work at any moment. Second, get through with the essential part of the operation early, so that if one must stop the patient will have been relieved.

47. A similar article was published in the *Bulletin of the Johns Hopkins Hospital*, June, 1909.

48. **Chloroma of the Jaws.**—Woman, aged 38, about Jan. 5, 1909, suffered from violent neuralgic pains over the temporal region, cheek and upper jaw on the left side, and then first noticed a swelling of the gum of the upper jaw in the region of the first bicuspid tooth of the left side. A day or two later she noticed a similar swelling at a corresponding point on the opposite side, and simultaneously a swelling made its appearance around the first bicuspid of the lower jaw on the left side. Within a day or two the pain subsided, but the swelling continued to increase. On examination, February 12, a marked swelling of the gums was seen involving both jaws on the lingual and buccal aspects, except on the right side below, where the teeth were absent, but for one or two roots. There were swellings under the jaw on both sides involving the sublingual and submaxillary lymphatic glands. The glands were fairly movable and not tender to touch. No other glands were enlarged in the neck. The skin was swarthy but not pigmented. The breath was very foul. The swelling of the gums was very marked, spreading between the teeth, convoluted, dark, purplish-red in color, covered with epithelium, firm to touch, and not bleeding readily. The tonsils were not enlarged. Temperature was 99.6 F. March 8, a firm ridge about the size of a whipcord could be seen, running all round the jaws above and below, just at the junction of the cheek with the gums. The breath was very foul and there were one or two sloughing areas. Some of the teeth were loose. The pulse was rapid and the temperature 102 F. Later the woman developed a septic temperature, running from 100 to 104 F., while the pulse rate varied from 110 to 140. Pus was exuding from around the teeth and gums. An operation was undertaken, with the object of not only removing the growth but of getting rid of the septic condition around the growth and teeth and stopping absorption. She survived the operation only a few hours.

50. **Aneurism of the Internal Carotid.**—The authors regard this case as worthy of reporting because, first, no similar case of aneurism of the internal carotid surgically treated has ever been reported, and second, because the technical difficulties encountered in this case (which necessitated freeing the aneurismal sac from the surrounding structures) and the subsequent sloughing of the sac wall as a result probably of insufficient blood supply, add something to our knowledge of the factors which determine success or failure in conservative aneurismorrhaphy.

For one year the patient noticed a painless, pulsating, gradually but steadily developing mass just above the bifurcation of the carotid on the right side of the neck. There was no evidence of nerve involvement, no cerebral symptom and the general health of the patient was good. The usual physical signs of aneurism were present. General physical examination was negative. At the operation the tumor proved to be a saccular aneurism of the internal carotid arising 4 cm. above bifurcation, sac about 4 cm. in diameter. The following procedure was carried out. Crile clamps were placed on the internal carotid above and below aneurism, also untied ligatures to be used in case of emergency. Sac was opened longitudinally and some fresh blood clot removed. The neck of the sac was sharply defined, arising from about 2 cm. of artery. No. A silk, saturated with vaselin was used, the first row of sutures being so placced as to close the neck of the sac with preservation of lumen practically without narrowing. Crile clamps and emergency ligatures were then removed. There was only slight bleeding from stitch holes, which was easily controlled by temporary gauze pressure. Vessel was pulsating normally when last seen. The incision was closed with deep plain catgut sutures, and horse-hair skin sutures, without drainage. No bad effects were noticed from temporary compression of the internal carotid, which lasted about twenty-five minutes.

Three days after leaving the hospital a hematoma formed beneath the scar, which was opened and drained. The next day there was a moderate hemorrhage. On the twentieth day following the operation a large hematoma formed in the neck and it was decided to reopen the wound and ligate the bleeding vessel. Under ether the incision was opened and immediately there was an alarming hemorrhage. The common carotid was at once clamped, but the hemorrhage came chiefly from above and all clamps placed on the internal carotid above the site of the aneurism simply ruptured the friable vessel wall. The hemorrhage was finally controlled by packing, but the patient died within a few hours from the effects of the hemorrhage. Examination at the time of second operation showed that the flaps of the aneurism sac had apparently sloughed. The secondary hemorrhage came apparently from the junction of the upper end of the sutured aneurism sac with the internal carotid.

51. **Infantile Shoulder Paralysis.**—Kiliani reports a case of paralytic shoulder joint due to infantile paralysis, on which he operated to improve function. An incision was made about nine inches in length at the anterior border of the deltoid. The capsule was exposed and severed horizontally at its insertion to the humerus in about three-quarters of its circumference. The biceps tendon was not cut through. The free upper border was sewed down to the periosteum of the humerus about two inches and a half lower down. This was done while the arm was brought in horizontal position. Then the long tendon of the biceps was pulled through the intertuberculous mucous sheath of the capsule, and the surplus material used to make a double loop which was sewed together.

These two steps in the operation brought the head which had been hanging down more than two inches and a quarter hard up against the glenoidal fossa. Then Kiliani dissected the deltoid from the clavicle and the acromion entirely, so that the upper border was completely free. Then the insertion of the trapezius was severed from the two bones named. The free edges were then united by interrupted chromic catgut sutures, thus making one muscle out of the shoulder part of the trapezius and the deltoid. The wound was completely closed and healed promptly by primary union. The arm was dressed in abduction. Three weeks after the operation the patient began to use the arm, and slowly could abduct the arm from the hip.

52. **Empyema Thoracis.**—Tennant emphasizes three points in the treatment of empyema thoracis: 1. The early attainment of an opening so located as to secure a large and free drainage, followed by the introduction of fenestrated tubes of sufficient caliber to quickly and effectually drain the cavity. 2. The removal of these tubes at the earliest possible moment, after they have done their work. 3. The application of the Bier hyperemic cup to drain the cavity after the tubes have been removed; this treatment to be continued until the lung is well expanded and the parietal pleura permanently closed.

53. **Pancreatitis.**—In 62 cases of pancreatitis, Pilcher found the urinary reaction positive in 82 per cent. and negative in 18 per cent. Positive reactions were obtained in all cases of subacute and all of the more marked chronic types of pancreatitis. The negative results were obtained in cases of moderate localized chronic pancreatitis of interlobular type. In 293 cases of pancreatitis, stones were present in 77 per cent.; 52 per cent. in the gall-bladder, and 25 per cent. in the common duct. Cholecystitis was marked in 33 per cent. *per se* and plus other factors. In 3,095 operations on the gall bladder and biliary tract, 9.5 per cent. of the cases were accompanied by gross changes in the pancreas. In 394 operations in which stone was found in the common duct, 19 per cent. were accompanied by gross changes in the pancreas. Pilcher concludes that the disturbance of internal secretion of the pancreas is responsible for the pancreatic reaction; that this may be effected by reflex irritation as well as by direct, which may prove the forerunner of gross changes in the gland. A typically positive reaction with a negative control is almost pathognomonic of pancreatic derangement. The converse is not shown.

54. **Ileus After Rib Fracture.**—The patient fell against some banisters and fractured several ribs on his right side. Before the fall the patient's bowels had acted with regularity, but after it they refused to act, although aperients and three enemata were administered. Vomiting set in on the day of admission to hospital; at first it was bilious in character, but as its frequency increased the color became darker—so that when admitted the patient was bringing up black vomit. There was slight abdominal pain. The abdomen was opened through the right rectus, but no lesion save distended bowel could be discovered; the distention chiefly affected the small bowel, and the cecum and colon were only moderately dilated. There was no free fluid. As no sign of organic obstruction could be discovered the abdominal cavity was closed in layers. After the operation the patient showed signs of profound shock, and, while the abdominal distention was markedly decreased, his general condition was far from satisfactory. Death occurred some 48 hours after operation.

The second case was similar to the first in its clinical features. The clinical picture was one of intestinal obstruction, enemata and the passage of a long rectal tube afforded no relief. Puncturing the bowel through the abdominal wall with a hollow needle gave great relief. This treatment was followed up by the injection of eserin salicylate gr. 1/50 into the buttock at four-hour intervals. After two doses the bowels acted twice and the man was greatly relieved. This improvement, however, only lasted for about sixteen hours, and at the end of this time his condition was as bad as before. An incision was made under local infiltration anesthesia, and a coil of small intestine blown up firmly against the parietal peritoneum, was exposed. A very small opening was made and a winged rubber catheter was tied into the bowel. The production of this small fecal fistula to all appearances saved the patient's life.

55. **Fibrinous Calculi in Kidney.**—Gage and Beal record the autopsy findings in a case of fibrinous calculi in the kidney reported by them in September, 1908. There were general arteriosclerosis; myocarditis; dilated heart; general abdominal adhesions; renal infarcts; multiple fibrinous concretions in ureter; and chronic ureteritis.

### Denver Medical Times and Utah Medical Journal

*January*

56 Raynaud's Gangrene. H. G. Wetherill, Denver.
57 Local Anesthesia by the Intravenous Method of Bier. L. Freeman, Denver.
58 Restoration of Finger Ends after Traumatic Loss. G. W. Mill, Denver.
59 Streptococcus Infection: Its Treatment and Report of Cases. F. M. McCartney, Denver.
60 What may be Shown by Means of the Roentgen Ray. G. H. Stover, Denver.
61 Uselessness, Damage and Dangers of Corrosive Sublimate as an Antiseptic. J. R. Hopkins, Denver.
62 Strangulated Hernia with Resection of the Intestine. C. B. Lyman, Denver.
63 Treatment of Burns. C. E. Tennant, Denver.
64 The Pupils under General Anesthesia. C. G. Parsons, Denver.
65 Complete Transverse Rupture of Prostatic Urethra. M. R. Root, Denver.
66 Hemorrhage and Transfusion. E. F. Root, Salt Lake City.

### Journal of Infectious Diseases, Chicago

*January*

67 *Comparative Study of Intestinal Streptococci from the Horse, the Cow and Man. C. E. A. Winslow and G. T. Palmer, Boston.
68 *Investigation of Extent of Bacterial Pollution of the Atmosphere by Mouth Spray. C. E. A. Winslow and E. A. Robinson, Boston.
69 Bacterial Flora of Milk Held at Low Temperatures. M. P. Ravenel, D. [illegible] W. Hammer, Madison, Wis.
70 Production of [illegible] Heinemann, A. B. Luckhardt and A [illegible]
71 Reactions of V[illegible] Esculin Agar. O. Klotz and A. C. Rankin, Montreal.
72 *New Color Medium for Isolation and Differentiation of Streptococci. D. D. Todd, Chicago.
73 Testing of Shellfish for Pollution. S. DeM. Gage, Lawrence, Mass.
74 *Precipitin Reaction in Tuberculosis. A. E. Porter, Edinburgh, Scotland.
75 *Injections of Homologous Streptococci Killed by Galactose in Treatment of Suppurative Complications of Contagious Diseases. T. H. Boughton, Chicago.
76 *Interaction of Serum Leucocytosis; Bacteria in Phagocytosis as Observed in Recurrent and Relapsing Erysipelas. T. H. Boughton, Chicago.
77 *Concentration of the Antibodies in the Body Fluids of Normal and Immune Animals. F. C. Becht, and J. R. Greer, Chicago.
78 *Complement Fixation in Gonorrheal Infections. T. Watabiki, Tokio, Japan.

67. **Intestinal Streptococci.**—In full accord with the findings of certain English bacteriologists, Winslow and Palmer show that the chief types of streptococci in the normal human intestine are *Streptococcus mitis,* which ferments dextrose and lactose, and *Streptococcus fecalis,* which ferments dextrose, lactose and mannite. It is pointed out that the pollution of water with road washings may be distinguished from wastes of other kinds by the streptococci present.

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## Original Articles

# SYMPTOMATOLOGY AND LOCALIZATION OF BRAIN TUMOR[*]

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PHILADELPHIA

The most important indication of brain tumor is a gradual development of signs pointing to a sharply limited lesion of the brain: this may occur when the general symptoms of tumor, headache, nausea, vomiting and papilledema, are absent. It may, of course, be produced by other lesions, but in none is it so common as in tumor.

It is desirable to call attention in this connection to a symptom-complex that I have treated more at length in a paper read at the last meeting of the American Medical Association, namely, gradually developing hemiplegia. The importance of this complex is frequently overlooked. Since the presentation of the paper referred to I have had the opportunity of observing in consultation another case in which the only important signs of brain tumor had been a hemiplegia of uncertain beginning with hemianesthesia, in which, without any sudden increase of symptoms, the weakness had imperceptibly from day to day increased to a complete unilateral paralysis. Hemianopsia probably existed on the side of the hemiplegia. The diagnosis of hemorrhage or thrombosis had been entertained, and, as the patient lived in the country, an ophthalmoscopic examination had not been made. The very positive statement as to the slowness in the development of the hemiplegia led me to suspect brain tumor and, as the patient was a woman, to examine the breasts. A hard nodule with a retracted nipple was found, and further investigation elicited the information that the patient had had headache for some time, and other members of her family had had carcinoma. A necropsy was refused, and yet I do not feel venturesome in making a diagnosis of metastatic carcinoma of the brain. In this case is shown the importance of focal symptoms without the general symptoms of tumor. It is not a bad idea to examine the breasts of a female patient who has symptoms of cerebral or spinal tumor.

We hear from the surgeons chiefly, but it is a truth that others also should emphasize, that operation in cases of brain tumor must not be delayed long—that to be successful it must be done early. There are two sides to this question, as to many others, and the neurologist more than the surgeon sees the early clinical aspect. A patient does not usually consult a surgeon for some cerebral lesion until he has been at least partially convinced that operation may be advisable. He may not have acknowledged this to himself, but his attitude toward operation is a receptive one. The neurologist more frequently sees the first indications of what may be brain tumor, and yet with his experience he often is unable to make a positive or even a probable diagnosis of tumor in an early stage of the disease. He must not be hasty or he will have many a head opened when there is no need. His responsibility is great. A necessity for moderate delay for observation and antisyphilitic treatment is not to be ignored, but the delay must not be too long or antisyphilitic treatment pushed too far. It must also be borne in mind that in glioma the symptoms may be decidedly lessened by the administration of an iodid, as in a recent case under my observation. The Wassermann reaction has become an important aid to diagnosis, but we must not forget that a syphilitic person may have a non-syphilitic tumor.

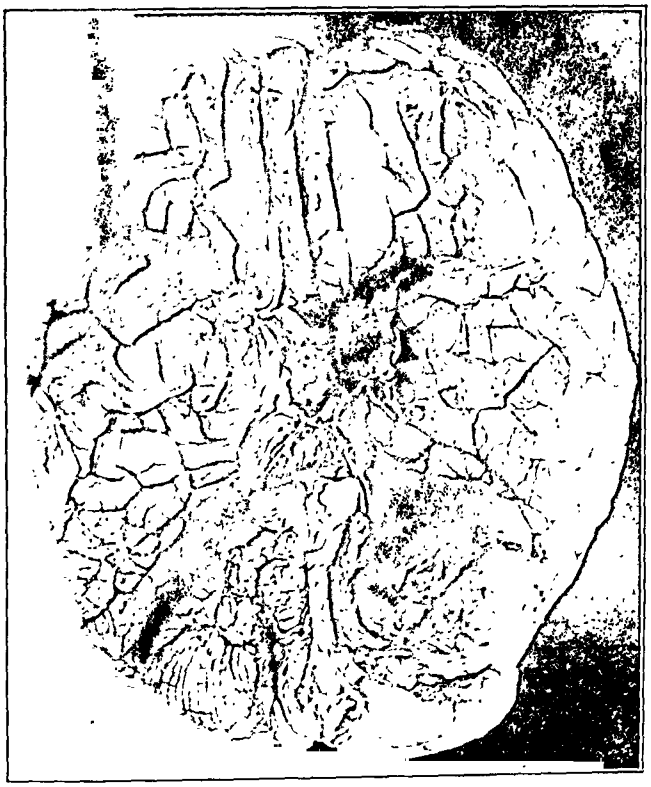

Fig. 1.—Tumor which developed just below the tentorium and caused vertigo, ataxic gait, disturbance of speech, deafness, nystagmus, paralysis of the left external rectus muscle, some facial palsy, etc.

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[*] Read by invitation before the Chicago Medical Society, Oct. 27, 1909.

[*] From the Department of Neurology and the Laboratory of Neuropathology of the University of Pennsylvania.

Especially serious is the delaying of decompression when papilledema is developing rapidly, as it may in tumor of the pons or cerebellum. I have known it to reach a high degree *within a few days.* As tumors of the pons often exist for a long time without causing papilledema, and then suddenly may give rise to a rapid swelling of the optic discs, the danger of being caught off one's guard is by no means imaginary.

As an illustration *of the difficulties in deciding from* the early symptoms as to the existence of a tumor a recent case under my observation may be briefly referred to.

A man of much intelligence with a syphilitic history had a convulsive attack confined to the left side of his body about a year ago. This was the only attack he had had. Headache and vertigo had occurred, but had not been important. No changes in the eyegrounds were found. A short time ago left hemiplegia developed gradually within a period of four days, and then gradually diminished and disappeared in a few weeks. These were the only symptoms, and yet they were suggestive of a focal lesion in the right motor region. Operation did not seem to me advisable at this early period, as the case was probably one of vascular disease. I was, however, prepared for the possibility of an operation later.

I am not in sympathy with the teaching that when there is any doubt as regards the existence of a brain tumor decompression should be performed and later the antisyphilitic treatment should be carried out. In my opinion, decompression is indicated in cases in which grave symptoms of increased intracranial pressure exist, and if the symptoms do not call for immediate decompression. I much prefer the antisyphilitic treatment before the skull is opened. Of course, the delay must not be too great, but the wise physician must learn by experience how long he dare wait. Decompression is a trauma of the head, and when mental failure has begun it may be intensified by this operation, as has occurred in my own practice, and in some instances decompression does not benefit the patient.

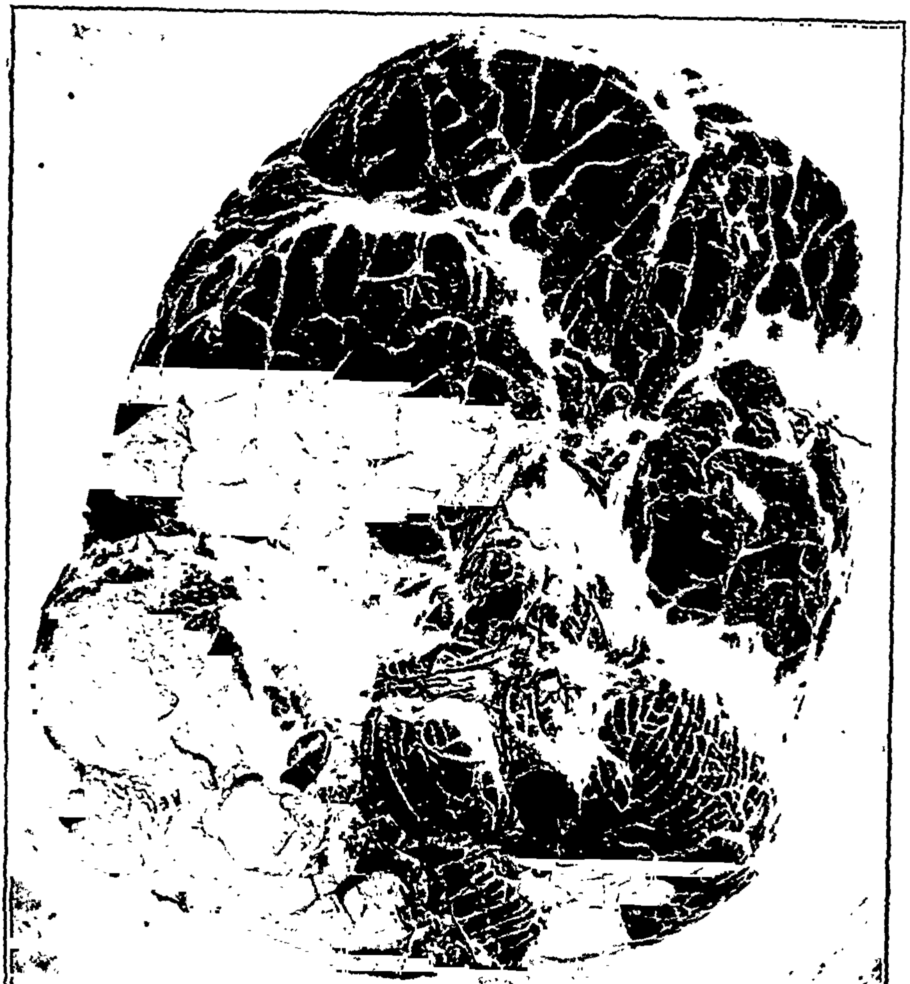

Fig. 2.—Tumor much larger than that shown in Figure 1, but growing above the tentorium. The only important signs were large head, nystagmus, papilledema, and diminished patellar reflexes.

*The interpretation* of symptoms of brain tumor is not always easy. General symptoms may be mistaken for focal symptoms, and this is especially liable to occur if the supposedly focal symptoms appear late. The early appearance of focal symptoms has much greater diagnostic value than the appearance of the same symptoms after intracranial pressure has been increased for some time. No one makes a focal diagnesis from papilledema; at most he employs it only as indicating the side of the brain affected, but nerve deafness *occurring with other signs of tumor* has been regarded by almost all as of focalizing value. If it develop late in the symptom-complex there is a possibility that it may be merely a sign of intracranial pressure, and comparable with papilledema. Some evidence is at hand to indicate that possibly early appearing nerve deafness may be from general intracranial pressure, as in a case reported recently by Ruckert, in which tinnitus aurium and nerve deafness were among the first signs of tumor of the frontal lobes. Internal hydrocephalus may be used to explain certain cases of this character, or pressure driving the posterior part of the brain into the foramen magnum, but such lesions are not early even if the symptoms so produced appear to be early, and neither condition mentioned was present in Ruckert's case. A similar case has been reported by Souques, and explained as the result of general intracranial pressure. It is well perhaps to be a little cautious in regarding nerve deafness as one of the general symptoms of intracranial pressure; it is far more frequently a focal symptom, and not entirely parallel with papilledema.

*Other cranial nerves* may be affected by general intracranial pressure, but the signs of such involvement are usually late in appearing in the symptom-complex. I have *known loss of smell to occur from a tumor at* the foramen magnum, and paralysis of an external rectus muscle from a tumor of the parietal lobe. The abducens nerve has the longest intracranial course of any of the cranial nerves, arising, as it does, at the union of the pons and medulla oblongata and leaving the skull through the sphenoidal fissure; and one should be cautious in accepting its paralysis as a localizing sign, unless when it occurs early.

Every experienced neurologist has met apparent contradictions between focal lesions and symptoms. Certain areas of the brain have been generally recognized as having to do with certain functions, and yet these areas have been destroyed without a corresponding loss of function. Various explanations have been sought. The statement has been made that a portion of the area must have been left intact, or the corresponding area in the opposite hemisphere must have assumed a vicarious function. These explanations have not satisfied all investigators; von Monakow has put forward his diaschisis theory, and insists that we must not identify localization of function with localization of symptoms. Localization of focal symptoms is a complicated reaction of the uninjured nervous system to the local cortical insult; whereas the localization of function depends on the action of all the elements of the function concerned in the entire central nervous system. When an area of the brain is destroyed, many tracts in connection with this area, commissural, associative, projectile, are injured or destroyed, and the effect is demonstrated by the disturbed action of distant parts of the central nervous system. The loss of tendon reflexes of the lower limbs in hemiplegia, for example, is the effect of diaschisis, as shown by disturbed function in the lumbar portion of the cord from a lesion of the cerebrum. As the various tracts differ to some extent in different individuals, the symptoms of a lesion, i. e., the reaction of the nervous tissue not directly affected in the lesion, varies from case to case, both in intensity and duration. We probably have in diaschisis one of the most satisfactory explanations for the apparent contradictions between symptoms and lesions that we frequently observe, and by it possibly we may explain astereognosis and other sensory disturbances following operations confined to the area of the brain anterior to the central fissure. In such operations, however, we must not discount the effect of exposure of a considerable area of the brain, of the results of handling the brain during operation, and especially the interference with the circulation of adjoining regions caused by the removal of a tumor or merely the ligation of vessels. The importance of the last procedure in causing symptoms has been demonstrated by the ligation of cortical vessels in the treatment of epilepsy.

In this connection I would refer to the recent valuable Linacre lecture by Sir Victor Horsley on the function of the so-called motor area of the brain. He describes a case in which, because of the athetoid movements of the left hand and later violent convulsive movements of the whole left upper limb, he removed the entire motor region for the upper limb in the gyrus precentralis, as determined by the response to electric stimulation. The whole depth of this gyrus was excised without any injury to the neighboring gyri or even to the vessels of the sulci, beyond the laceration of the smallest branches entering the portion of gyrus removed. Although not germane to the question under discussion here, it may be mentioned that the spasmodic movements totally disappeared from the moment that the gyrus was removed. and have remained absent to the time of publication of the paper (thirteen months), and a month after the operation voluntary movements began to return and are increasing in efficiency.

The result of this operation led Horsley[1] to conclude that in man the gyrus precentralis is the seat of representation of tactility, topognosis, muscular sense, arthric sense, stereognosis, pain and movements.

We may, perhaps, ask whether this case proves all that is claimed for it. Granting that the motor area of the gyrus precentralis was accurately defined, and that it is possible to do so by electricity, concerning which I have some doubt, as electrical response may not be identical with voluntary motion; still we must all admit that after the excision of so large a piece of cortex, measuring approximately 4.5 cm. in length—if I read the somewhat indistinct photograph of the scale correctly—the disturbance to connecting tracts must be considerable, and the results of diaschisis so produced might well persist thirteen months. Therefore it seems questionable whether one may make so decisive arguments from this case for the sensory area of the gyrus precentralis. I have never been able to convince myself, however, that the gyrus precentralis is entirely motor and the gyrus postcentralis entirely sensory. From *a priori* reasoning this conclusion seems improbable. The regions of the brain are not separated so sharply from one another as to form a map with outlines as definite as those of the United States, and we all admit that the motor cortical centers are not sharply defined from one another. It seems decidedly schematic to say that the central fissure is a line of sharp definition—indeed, the bottom of the fissure is supposed to be the line of definition—that in front of it is the entire motor area, and behind it the entire sensory area. The same objections to these conclusions in this extremely valuable paper of Horsley's may be made to some of those in Hoppe's recent important paper[2] on the location of stereognosis in the gyrus precentralis.

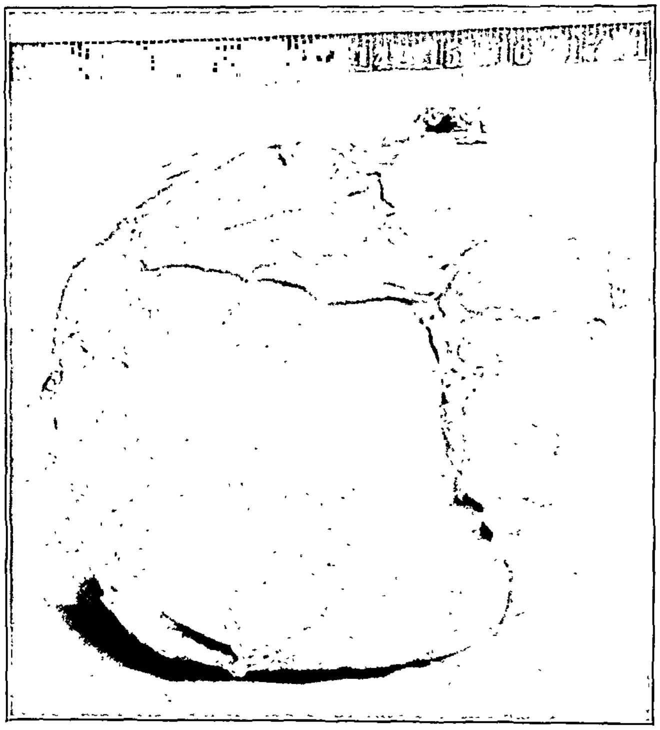

Fig. 3.—A larger view of the same tumor shown in Figure 2.

Possibly more valuable in determining the representation of sensation in the precentral region is the experience of Cushing,[3] who in a person not under the effect of an anesthetic obtained the sense of muscular movement from the gyrus precentralis by electrical irritation. He states that his patient was perfectly aware of the movements, and described his appreciation of them as a drawing sensation, as when the muscles are "pulled" by peripheral electrical stimulation. Was this, however, the stimulation from the muscular movement conveyed from the limb through sensory fibers to the parietal lobe?

Horsley's case seems to show what he claims for it regarding motion, namely, that motion is not represented solely in the gyrus precentralis, and to justify his conclusion that the gyrus postcentralis is in man part of the area for the upper limb in which the sensorimotor representation is of the same kind as that in the gyrus precentralis, but in it probably provision for sensorial coordination is greater, and that for efferent impulses less. It is to be remembered that he destroyed the whole motor area for the upper limb in the gyrus precentralis and yet much voluntary motion returned. Horsley states that such conclusions were made probable by the experiments of Grünbaum and Sherrington on the chimpanzee, in which animal these observers found that after the arm area in the so-called motor precentral gyrus was excised the purposive movements returned in a few weeks, and compensation was not effected by the opposite arm area in the contralateral hemisphere.

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[1] Horsley: Brit. Med. Jour., July 17, 1909, p. 125.

[2] Hoppe: Jour. Nerv. and Ment. Dis., September, 1909.

[3] Cushing: Brain, 1909, xxxii, 48.

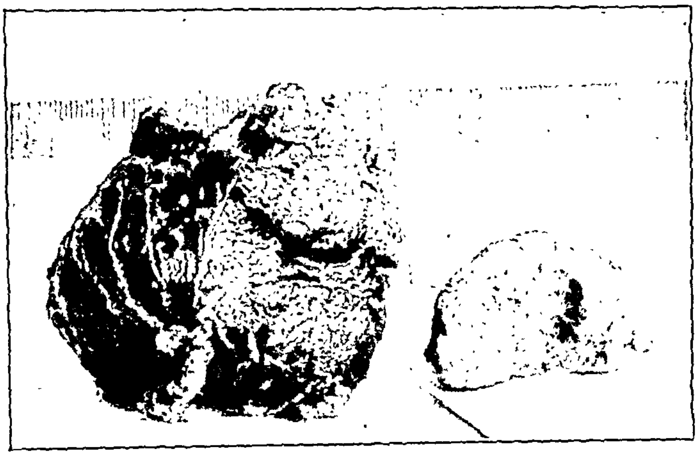

Fig. 4.—The larger of the two tumors here shown grew from the petrous portion of the right temporal bone and caused as first signs, twitching of the right side of the face and pain in the region of the ear. The smaller tumor was removed from the front part of the cerebrum, and was a glioma. Sudden death occurred five or six hours after the removal of the tumor.

Horsley shows by his case that the Betz cells are not necessary for motor function, and refers to the fact that Brodmann likewise demonstrated that they are not indispensable for purposive muscular actions; therefore conclusions based on the histology of the cortex in defining the motor region contain an element of uncertainty. The same is true of Campbell's conclusions as to the sensory area posterior to the Rolandic fissure as determined by the alteration in a sensory nervous disease as tabes, conclusions which have been shown to be erroneous by Gordon Holmes.[4]

In November, 1899, I reported[5] that I had employed the degeneration of amyotrophic lateral sclerosis extending to the cortex as a means of determining the extent of the motor cortex in man. No one previously had used this method, and yet the degeneration of this disease is chiefly one of the motor system. The gyrus postcentralis was not intact in my case, but was considerably less degenerated than the gyrus precentralis. It is true that tracts other than motor are sometimes slightly degenerated in amyotrophic lateral sclerosis, but this degeneration probably is not early and may be secondary. I am not aware that anyone has observed pronounced degeneration detectable by the Marchi stain in the posterior columns in this disease.

Later Campbell employed this means without reference to my work, but was unable to find degeneration in the gyrus postcentralis. Rossi and Roussy[6] still later found degeneration in the gyrus postcentralis by this method.

It is singular that a case very similar to Horsley's should be reported by P. L. Friedrich[7] about the same time that Horsley's paper appeared. The upper limb center in the gyrus precentralis was defined by electrical irritation and excised because of epilepsy. The return of motor power after five and a half weeks was very marked. Contrary to the findings in Horsley's case, sensation was not altered in any way. The operation produced a cure, at least until the time of the report, six months after the operation. Friedrich explains the return of power as the result of "compensation," and implies that it was from the opposite cerebral hemisphere, although this statement is not clearly made. Before this question of the method by which return of power occurs can be satisfactorily answered it will be necessary to have the results of excision of the centers for corresponding limbs in both cerebral hemispheres in man, and it is not likely that these will be obtained soon.

Few American or English surgeons or neurologists, so far as I know, have advocated cerebral puncture. As yet this procedure seems to be recommended chiefly by certain German physicians. It has the approval of Oppenheim, but is discountenanced by Krause, and has led to open letters between these two men. There are grave dangers in connection with it that have deterred many from adopting it, and it seems doubtful whether it will ever come into general use.

It is likewise doubtful whether the search for tumor cells in the cerebrospinal fluid by lumbar puncture will be of much service. It is true that Sicard and Gy[8] obtained sarcoma cells in this way in sarcomatous meningitis, but a solitary tumor would be unlikely to produce sarcoma cells in the cerebrospinal fluid, and sarcomatous meningitis is extremely rare. Lumbar puncture also is serious in cases of suspected tumor of the brain and has repeatedly caused a fatal termination.

When multiple fibromas occur in superficial parts of the body associated with signs of tumor of the cerebellopontile angle, they are regarded as indicating that the cerebral tumor is likewise a fibroma. In none of the cases of tumor of the cerebello-pontile angle that I have seen were fibromas of superficial parts found, and this association of superficial and deep growths seems to be so rare as to be of comparatively little value in diagnosing a brain tumor, although occasionally it is of much importance, as in a case described to me recently by Dr. G. Bastianelli, of Rome, Italy.

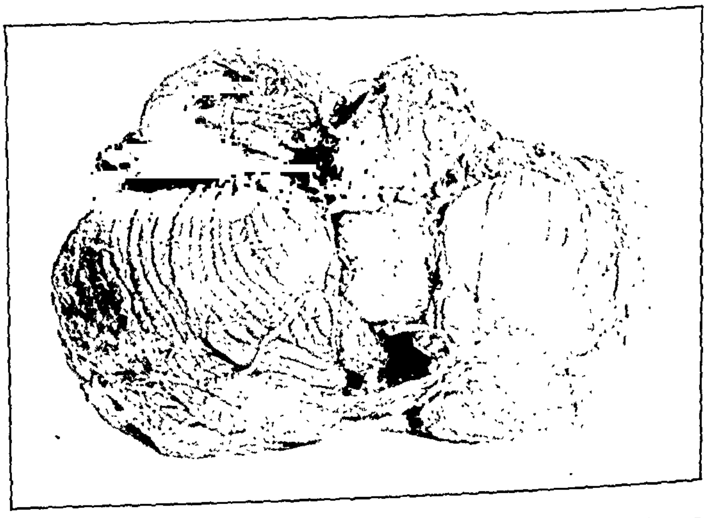

Fig. 5.—Thrombosis of the inferior petrosal and cavernous sinuses, causing symptoms like those of tumor, lasting about a year.

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[4] Holmes, Gordon: Rev. Neurol. and Psychiat., 1908, p. 5.

[5] Spiller: Jour. Nerv. and Ment. Dis., 1900, p. 165; Contrib. from William Pepper Lab. Clin. Med., 1900.

[6] Rossi and Roussy: Rev. Neurol., Aug. 15, 1907.

[7] Friedrich, P. L.: Monatsschr. f. Psychiat. u. Neurol., 1909, xxvi, 129.

[8] Sicard and Gy: Rev. Neurol., Dec. 15, 1908, p. 1245.

The $x$-rays also have been unsatisfactory in my experience. I have never been convinced that the shadows shown and supposed to indicate brain tumors were reliable. When the bone of the skull is much thinned, as from increased intracranial pressure or when the sella turcica is enlarged, $x$-rays may be of service.

I have examined the specimens of brain tumor in my possession in the Laboratory of Neuropathology of the University of Pennsylvania, and have counted 72; probably some have been overlooked. By far the larger number of these (40) were in the cerebrum. The tumors in the pons (7), in the cerebello-pontile angle (8) and in the cerebellum (7) were nearly the same in number. Most of the tumors are gliomas or sarcomas, and the numbers of these two varieties differ according to the interpretation of the examiner. The diagnosis between glioma and sarcoma may be difficult, and the term gliosarcoma is an attempt to avoid the distinction.

The diagnosis of gliosarcoma usually implies a tumor that has resemblance to both glioma and sarcoma, and not usually a tumor partly a glioma and partly a sarcoma. Such a mixed tumor must be rare and difficult to recognize, but that it may occur is shown by the report of a recent case by Merzbacher.[9] In this a tumor of the brain contained as a center a sarcoma with a periphery of glioma. The sarcoma was considered the primary tumor, and Merzbacher speaks of glioma following sarcoma or reactive glioma in preference to gliosarcoma.

Only two gliomas in my collection were fairly sharply defined, and one of these was infiltrating at one portion. I have had no sharply defined glioma with one exception, and I am a little in doubt in regard to this. Well-defined gliomas are reported by others. I have never had any finding that would lead me to believe that a glioma may entirely disappear and give place to a cyst.

Dr. F. B. Mallory regards sarcoma as a rare tumor of the brain, and some tumors sharply defined that would be classed by many as sarcomas he places among the gliomas. The fibromas or fibrosarcomas within the cranium he classes as endotheliomas.

I would call attention especially to the small number of macroscopic gummas (4) in my collection. We often hear the diagnosis of gumma made when cerebral syphilis is suspected, and yet the findings do not justify this diagnosis. I have for years taught students to be careful in making the clinical diagnosis of gumma of the brain. Cerebral syphilis is extremely common, but the usual lesions are arteritis and meningitis, and it is because of this that antisyphilitic treatment may be so valuable in the early stages of syphilis of the nervous system before degeneration has occurred. I do not believe that it is possible to dissolve by drugs a well-organized growth.

The tumors growing in the pons (7) in my specimens were: glioma 4, tubercle 3. Tumors of the cerebello-pontile angle are almost always fibromas or fibrosarcomas, although by some these growths are described as endotheliomas. They differ from the tumors I have regarded as endotheliomas, which develop from the dura. The cerebello-pontile angle tumors are well defined and easily removable, so far as their attachments are concerned, but they are situated in such a dangerous region that the attempt to remove them is almost always fatal, or, if not fatal, the condition of the patient usually is not improved by the operation, or is even rendered more pitiable. It seems, indeed, strange that the most favorable form of tumor (fibroma) as regards structure and sharp definition should favor above all portions of the brain the cerebello-pontile angle, the most vital region.

Carcinoma rarely occurs; in my collection it is present in 3 cases; nor is tubercle very common. I have seldom found multiple tumors, and this infrequency is important as regards operation. Most tumors growing from the dura are fibromas, fibrosarcomas, or endotheliomas; occasionally gumma is found, and these are all favorable for operation. The gumma is more likely to be a superficial tumor, but is never sharply defined; when growing in the brain substance it is not very favorable for operation, but may be so when confined to the dura.

Sarcomatosis, or tumor meningitis resembling sarcoma or glioma tissue, I have seen four times. It seems to be little known in this country, and the clinical diagnosis because of the diffuseness of the symptoms, is extremely difficult. Where a sarcoma develops elsewhere in the body and is recognized, sarcomatosis of the nervous system also may be diagnosed, or it may be suspected where symptoms of brain tumor are associated with those indicating focal symptoms of the spinal cord.

Occasionally a condition of general clonic spasms occurs in tumor of the brain, resembling that of a patient in a state of acute alcoholism. It is not unlike the epilepsia partialis continua, to which I called attention in this country in June of this year,[10] although it has been known to Russian writers many years. I have recently had an opportunity to observe this general clonic spasm in a man who had a large tumor extending almost to the cortex and occupying the motor area of the brain. If such a case were brought before the physician without any knowledge of the previous history a diagnosis of alcoholism might be excusable.

The symptoms of tumor are seldom mistaken for the nephritis of pregnancy, but this is a possibility that must be considered. In one of my cases (No. 296) the early symptoms of tumor (an endothelioma) occurring during the late stage of pregnancy and persisting after delivery might have led to a diagnosis of nephritis of pregnancy. Papilledema, convulsions, nausea, vomiting, and headache might easily be explained by such a diagnosis. Unfortunately the report of the urinary examination has been lost, but an examination was certainly made. The loss of tendon reflexes of the lower limbs, paresis of the left facial nerve and of the left external rectus muscle which occurred in this case would suggest a focal lesion, but these symptoms were few and slight considering the large size and position of the tumor. The escape of the fifth nerve is noteworthy with a tumor situated as this was, near the cerebello-pontile angle, but above the tentorium. Cases of tumor without any focal symptoms are by no means rare, and one may readily understand the difficulty that might arise in diagnosing between nephritis of pregnancy and tumor.

As compared with the case just mentioned, another case of tumor (a fibroma, No. 338) was typical, and yet the two tumors were in nearly similar situations. In the latter the symptoms were vertigo, ataxic gait, occipital headache, thick and slow speech, failure of hearing on the left side, and failure of sight with optic neuritis, slow nystagmoid movements in attempts at rotation, paralysis of the left external rectus muscle, cessation of menstruation for almost six months, slight weakness of the left side of the face and of the left muscles of mastication, exaggeration of patellar reflexes, especially of the right with patellar clonus, and uncertain Babinski reflex on the right side. The diagnosis of a tumor of the left cerebello-pontile angle was as certain as such a clinical diagnosis ever can be.

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[9] Merzbacher: Monatsschr. f. Psychiat. u. Neurol., August, 1909, p. 176.

[10] Spiller: THE JOURNAL A. M. A., June 12, 1909, liii, 1921.

Still more illustrative of the difference in the symptomatology of a tumor immediately above the tentorium and, therefore, in the middle cranial fossa, and of one immediately below is the following case (a fibrosarcoma, case No. 337), in which the tumor was exceedingly large and measured 8 cm. in diameter, and was round as a ball, and yet the symptoms were indistinct. The man was a patient of Dr. Mills' and was for a time under my care. His father was said to have a very large head, of about the same size as the patient's. The man was admitted to the hospital Feb. 20, 1906. About five months previously he had what was diagnosed as acute Bright's disease. Then he complained of his eyes becoming weak so that he could not see so well as formerly, but he states that for some years he was obliged to squint in order to get a good view of an object. He had no pain, no nausea, no vomiting (except vomiting during a short period), and no vertigo. His only serious symptom was impairment of vision. The report from Dr. de Schweinitz concerning the eyes was:

> Vision, O.D. 6/100; O.S. 6/100. Horizontal nystagmus, ocular movements free. Convergence practically nil, O.S. deviating. O.S. shows blurring and striation of nasal side of disc with some dipping of vessels, beginning neuritis +3D., large crescent out but edges seen. The swelling in O.D. is very vascular. O.D. shows a decided choked disc, height 10-11 D.

His head was so large as to suggest hydrocephalus. In looking directly forward he had lateral nystagmus and also occasionally in looking to either side; it seemed to be more an ataxic movement of the eyeballs. Finger-to-nose test showed slight ataxia on each side. Circumference of the head measured 25 inches, and from one external auditory meatus to the other 14 inches. The patient wore a 7¾ hat. The patellar reflex was almost lost on each side. He did not have Romberg's sign. Gait with the eyes closed was a little ataxic, but he did not really stagger.

As the symptoms might be interpreted as those of tumor, although hydrocephalus was possible, he was referred to Dr. Frazier's service. Operation was performed February 21 over the occipital bone and a portion of the lateral lobe of the cerebellum was removed, but the patient's condition was so serious that the operation had to be hastily concluded. He died March 9.

The necropsy was performed by Dr. Lavenson. The brain without the tumor weighed 1,920 gm., with it 2,110 gm. The convolutions were considerably flattened. The tumor weighed 190 gm. and was found on the right side of the brain adherent to and apparently taking its origin from the tentorium cerebelli. It was entirely encapsulated and nowhere firmly adherent to the brain tissue. It had destroyed the anterior basal portion of the right occipital lobe and the greater portion of the basal part of the right temporal lobe. The tumor was firm, dense, and smooth. Two or three smaller nodules adherent to it were found at its attachment to the dura. A growth situated as this was at the base of the occipital lobe may not interfere with the optic radiations, which are situated higher, and therefore may not cause hemianopsia.

Vomiting was slight, and there was no headache and no vertigo. The only important signs were the large head, nystagmus, changes in the eyegrounds, and diminished patellar reflexes; truly very insufficient disturbance when the large tumor is taken into consideration. The case shows the extraordinary degree of pressure the brain will occasionally endure, and yet in most cases such a growth would cause grave symptoms.

The early appearance of symptoms in basal tumor probably depends on the early involvement of one or more cranial nerves in the growth. If these nerves are merely distorted by the developing tumor, especially if the distortion be of slow development, the symptoms are much less intense.

Another case (an endothelioma, No. 494) I may refer to in which the tumor developed in the posterior fossa and, although small, gave very definite symptoms. At first it was not easy to exclude entirely a lesion in the petrous portion of the temporal bone, or a multiple neuritis of cranial nerves. The insidious onset that a tumor may have was well shown in this case. The twitching of the right side of the face with pain in the region of the ear was the earliest and for some weeks the only sign of tumor. The subjective disturbance of hearing preceded many weeks any objective deafness, and this is one more evidence that subjective disturbances are likely to precede objective. A patient's statement of his symptoms, provided he be intelligent, may be of great value to us in diagnosis when our examination reveals nothing. In the recent case reported by Horsley and referred to above, the statement is made that several days before the movement of the fingers and thumb returned the patient stated that he felt that the power was returning, and that he would shortly move the members.

In my case considerable complaint was made of numbness in the right side of the face, although no impairment of sensation could be detected by examination. I have seen a subjective sense of weakness in a limb precede by twenty-four hours any objective paresis.

The diagnosis of a lesion, probably tumor, near the exit of the seventh and eighth nerves was not difficult when the pain and twitching of the right side of the face were followed by complete right facial palsy, right nerve deafness, paresis of the right side of the soft palate, some ataxia in walking, and exaggerated left patellar reflex with left ankle clonus; but for a long time it was very difficult to decide whether the lesion was in the inner ear or within the cranium, and at first the possibility of multiple neuritis of the cranial nerves had to be considered, and also that of glioma of the pons and medulla oblongata, as glioma does not produce symptoms from all the structures it implicates. The diagnosis of location was fully confirmed by the two operations that became necessary.

Both Dr. Frazier and I were very loath to have a second operation in this case, as the patient nearly died after the first, but he and his relatives insisted on having it performed, and it did not seem right to refuse him the one chance for his life. The tumor at the second operation was removed by Dr. Frazier.

It is worthy of note that no evidence of papilledema was present in this case, although the growth was in the posterior cranial fossa and of fairly large size. When removed it measured 4 cm. in length. The pain began in the region of the right ear, and was one of the earliest symptoms, and sometimes the ear and adjoining part of the face were tender to touch. The pain was not in the forehead unless it radiated there from the ear. The possibility of this pain being caused by irritation of the seventh nerve must be considered. It was not in the distribution of the fifth nerve, and there were neither objective sensory nor motor signs of implication of this nerve. It followed twitching of the right side of the face and, therefore, like the twitching, seemed to be caused by irritation of the facial nerve.

The twitching of the facial muscles from irritation of the facial nerve, occurring in attacks and resembling cortical irritation, is a phenomenon not very well known. It was present in this case, and I have known it to occur in at least two cases in which I was associated with Dr. Mills, who has put these cases on record.[11] The first case occurred about 1900 and was reported by Dr. Mills and me at that time before one of the Philadelphia medical societies. The spasms were witnessed by both of us, and was so suggestive of cortical irritation that it was difficult at that time, without any similar occurrence reported in the literature, to attribute it to irritation of the facial nerve. It differed from the more common forms of facial spasm in that it occurred at rather long intervals and was more like an epileptic attack. Further reference has been made to these cases by Dr. Weisenburg.

It was desirable in the case to which allusion has been made above to determine whether the tumor implicated the seventh and eighth nerves at their exit from the cranium or at their exit from the pons where it joins the medulla oblongata. The symptoms did not permit a differential diagnosis as regards these two locations, and I doubt whether such a diagnosis would be possible.

Sudden fatal termination is common in tumors situated anywhere in the brain, but especially when the tumor is in the posterior cranial fossa. Operation was attempted by Dr. Frazier in one of the cases referred to in this paper (No. 296), in which after an opening about the size of a silver dollar had been made in the occipital region the patient suddenly became pulseless and respiration ceased. Her condition improved, but she died the same day.

The explanation may be that the tumor in this situation causes dislocation of the posterior part of the brain into the foramen magnum, but a more probable explanation seems to me to be that the cardiac and respiratory centers of the medulla oblongata are damaged by the pressure of the tumor and are less likely to withstand an operation.

In another case (Rosenfeld) in which the diagnosis was cerebellar tumor, decompression over the cerebellum was performed. The patient, a child 8 years old, rallied from the operation and slept well during the following night. The next morning with the temperature 98 degrees, pulse 84, and respiration 20, she suddenly began to gasp for breath and then ceased breathing, and soon the heart ceased to beat. This sudden death was observed also in a cerebellar case without operation (Lokuta), and in a case of cerebellar tumor (McClain), after decompression over the posterior cranial fossa. The patient, a boy aged 13, did well after the operation by Dr. Frazier for ten days, and had been in a wheel chair frequently. On the tenth day about midday he suddenly became very cyanotic, respirations became rapidly reduced until they practically ceased, and he sank into profound stupor. After prompt and prolonged artificial respiration, administration of oxygen and stimulation, the cyanosis disappeared and the patient recovered from the attack. Near midnight of the same day he had another attack of respiratory failure with cyanosis similar to the previous one and gradually sank and died within two hours.

Sudden death is not confined to cerebellar lesions, as shown by still another case (No. 495) in which death occurred very suddenly five or six hours after the removal of a small tumor, a glioma, by Dr. Frazier from the front part of the cerebrum, when the patient had seemed to be in excellent condition for some hours after the operation until twenty minutes before death (Fig. 4). It would be easy to add other illustrative cases.

The causes of sudden death are numerous and not always detectable even at necropsy. Candler has shown[12] that hemorrhage into the suprarenal capsule may give rise to obscure abdominal symptoms or nervous manifestations difficult of diagnosis, and may even be a cause of death without any appreciable symptoms whatever, and there are many other ways in which death, even sudden death, may occur without the cause being clearly demonstrated. To one aspect of a case in which sudden death occurred (Lokuta) I would call especial attention. A Pole with symptoms of tumor of the posterior cranial fossa was evidently very much frightened when brought into the operation room, and went into collapse just before etherization was begun. The attack which preceded etherization seemed to be brought on by fear of the operation. It is the only instance in which I have known fear to have such serious results in brain tumor, and the occurrence seems to indicate that severe depressive emotion may impair the chances in a serious cerebral or possibly cerebellar operation, much as Crile has demonstrated it may in operations on the thyroid gland.

In this case, as in others I have tested, the conjunctival and corneal reflexes were normal. Oppenheim regards a diminution of these reflexes as indicative of cerebellar tumor, and when unilateral as being on the same side as the tumor. I have never found a loss of these reflexes in cerebellar tumor. I would suggest that where the test is made with a piece of cotton wool the examiner may be deceived, as many normal persons may stand this sort of touch of the eyeball without winking.

In one case (No. 338) the left motor fifth was affected, but the sensory portion of this nerve escaped. In another case (No. 477) the sensory portion of the fifth nerve was affected by pressure of a thrombotic inferior petrosal sinus and the motor portion escaped. We have in this one of the peculiar selective actions of lesions in producing symptoms so common in nervous diseases.

Ataxia in walking and standing may be increased by closing the eyes, notwithstanding the lesion is cerebellar. It is often stated that a diagnostic point between the ataxia of tabes and that of cerebellar disease is the absence of increase in the ataxia on closing the eyes in the latter disease. This is not an absolutely reliable sign, as in some cases of cerebellar ataxia closing the eyes increases the incoordination.

Repeated attacks of hemiplegia are a rare manifestation of tumor. In one of the cases (No. 495) left hemiplegia with stupor and convulsions followed by almost complete recovery, and later by a return of the palsy with stupor and convulsions, seemed to be a form of exhaustion paralysis. That paralysis may follow convulsions and last several days, and even much longer if the convulsions be repeated, is well known. There could not have been any sudden increase in the size of the tumor to cause two attacks of paralysis, nor could the condition be regarded as uremic. The exhaustion paralysis of epilepsy was strikingly shown in a case reported recently by Williams Cadwalader,[13] and the literature is given by him.

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[11] Mills: Boston Med. and Surg. Jour., April 26, 1906.

[12] Candler: Arch. Neurol and Psychiat., 1909, iv.

[13] Cadwalader, Williams B.: THE JOURNAL A. M. A., Nov. 21, 1908, li, 1778.

It is well to remember that a cyst of the cerebrum or cerebellum is usually in association with tumor, and it is proper, therefore, to search for tumor when a cyst is found at operation. In one case (No. 326) the diagnosis of cerebellar tumor was easy. The improvement after the finding and evacuation of a cyst was striking, but it became my painful duty when informed of the results by letter to suggest that caution was needed. I much feared that the evacuation of the cyst would produce only temporary relief by diminishing the pressure on the brain. Such proved to be the case, and a glioma of the cerebellum was found later. A cyst is very often associated with a glioma.

The important question as to whether Jacksonian epilepsy is a sufficient cause alone for operation on the brain is of importance. The Jacksonian spasm in a case (Davenport) observed by me was for about a year and a half the only sign of cerebral lesion, and it was not until after this period that slight motor aphasia and slight hemiparesis developed. Headache and papilledema were not symptoms. I felt that an exploration of the brain was desirable, because convulsions strictly unilateral occurring occasionally during eighteen months were very suggestive of focal lesion, and such a focal lesion most likely would be tumor. The existence of idiopathic unilateral epilepsy has been discussed, and such a condition is clearly recognized, even status hemiepilepticus of idiopathic character. Shall we or shall we not operate in such a case as that mentioned above? I am distinctly in favor of exposing the brain at the region indicated by the symptoms. The possibility that we may not find anything abnormal is not to be ignored, and yet the hope in operating on brain tumors lies in the removal of the tumors while they are small. The motor area responds promptly to the irritation of a small tumor that might remain latent in many other parts of the brain. If this recommendation be followed, operations will probably be performed without revealing tumors, but that is the less of two evils. I am well aware also that the mere opening of the skull may prove fatal, occasionally by infection of the brain, as when a patient in stupor disturbs the bandages; or by postoperative hemorrhage from a small vessel, or by injury of one of the large venous sinuses with extensive hemorrhage, or when a piece of bone is removed for decompression and occlusion of vessels in a cerebral hernia occurs with extensive cerebral softening, or, still more rarely, from some unknown or remote cause as pulmonary embolism. I have seen death produced in all these ways, and yet we must remember the extreme seriousness of brain tumor; that operation alone affords any hope of recovery or of prolonging life, unless perhaps in tumor of the pituitary body, which is often of slow growth; and that operation must be done early if it is to be successful. Therefore, when symptoms are persistent, indicate a focal lesion of the brain, and are gradually increasing, even though general symptoms of increased intracranial pressure are absent, such as papilledema, headache, nausea and vomiting, I believe that as a general rule operation is advisable if the lesion, as shown, for example, by Jacksonian epilepsy, gives any reasonable hope of being found near the surface of the brain. Palliative operation is not to be considered in such a case as I have described, because the occasional unilateral spasms, the slight aphasia and slight hemiparesis would not seem to warrant it. Decompression, in my opinion, is more serious than mere exposure of the brain with return of the osteoplastic flap to its proper position—more serious because from the removal of a portion of bone, the size or less than the size of a silver dollar, a hernia cerebri is very likely to occur, and sometimes the hernia becomes very large, even becomes infected and forms fungus cerebri, or by pressure of the brain against the bone and occlusion of vessels leads to extensive cerebral softening.

In one of my cases of probable tumor of the pituitary body (G. S.) in which the most important symptoms were bitemporal hemianopsia, some mental dulness, tendency to jocosity, and marked asthenia, a peculiar sexual disturbance was present, first detected by Dr. Thompson S. Westcott, under whose care the patient had been. This patient had failure of ejaculation with preserved normal sexual desire and normal erection. It is well known that the genital functions in both male and female are impaired or lost as a result of lesion of the pituitary body, but the dissociation of the sexual functions, as manifested in this case, is unusual, and like that which sometimes occurs from lesions low in the spinal cord.

The diagnosis of frontal tumor is often difficult. In one of my recent cases I depended on the jocosity (*Witzelzucht*) and apathy, in connection with general symptoms in diagnosing frontal tumor, and the tumor was found in the frontal lobe; when, however, we try to decide between the right and left frontal lobes we often are helpless. The patient to whom I refer (R.) had come for the purpose of operation from a distant city. He informed me when I asked for his hand in examination that he had four hands, and this he said as a sort of joke. Such a statement as this under such serious circumstances indicates a peculiar condition of the brain, and probably a frontal lesion.

In one case only have I seen a pressure palsy of the seventh nerve follow operation, and in this it was caused by the head-rest and was of short duration. The facial nerve is not likely to be affected by any pressure from without, but pressure palsy of it has been reported. Knapp, in a case reported by him,[14] found that it resulted from sleeping a couple of hours with the cheek on the table. When the man awoke the face was paralyzed on one side from the pressure, and the faradic and galvanic reactions of this side were quantitatively diminished. Recovery occurred within about four weeks.

The symptoms of brain tumor may be caused by a variety of lesions, especially well recognized in this connection are brain abscess, hydrocephalus and meningitis, more commonly the syphilitic or serous variety of the latter, and a considerable amount of literature has appeared on pseudotumor. My attention has been called recently to some of the rarer lesions of the brain which may simulate tumor closely, and because of their infrequency may be more likely to cause a mistaken diagnosis, and even lead to operation. Of these lesions, polioencephalitis, thrombosis of the cerebral vessels, and thrombosis of the venous sinuses are especially noteworthy.

The following is a case illustrative of the difficulties that may be caused in diagnosis by polioencephalitis:

A girl, 14 years of age, was referred to me by Dr. F. H. Macfarland, June 24, 1908. She had been well until about six weeks previously, at which time the right lower limb began to grow weak, and in about one week the right upper limb also became weak. The paresis of these two limbs became gradually greater and was associated with nausea, vomiting, headache and unilateral convulsions.

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[14] Knapp: Monatsschr. f. Psychiat. u. Neurol., October, 1905, p. 309.

At my examination after her entrance to the hospital the child was weak in the lower part of the right side of the face, and in the right upper and lower limbs, especially in the lower limb. No form of aphasia and no disturbance of sensation were present. The tendon reflexes were exaggerated, the right more than the left, and patellar clonus was obtained on the right side. Bábinski's sign was pronounced on the right side.

One of the convulsive attacks was carefully observed. It began with numbness in the right upper limb and soon extended to the right lower limb; the right side of the face was drawn up and held rigidly distorted. The left side of the body was not implicated. The right side of the body was rigid about four minutes, without any clonic movements, and the child was unable to move the right upper and lower limbs about two hours following the attack. She did not lose consciousness.

It is very evident from the record here presented that we had to deal with a focal lesion of the brain. The duration of symptoms for about six weeks; headache, nausea, vomiting, progressively developing right hemiplegia, right-sided convulsions, made the diagnosis of location in the motor region positive, especially as all sensory disturbances and hemianopsia were absent. The symptoms were those of some lesion gradually increasing in size, and more like those of tumor than any other lesion. This diagnosis was rendered more probable by the report from Dr. de Schweinitz, which was as follows:

> Vision 5/6 in each eye. *Beginning papillitis in each eye*; nasal, upper and lower margins obscured, temporal still visible, veins full. Pupils react normally, no muscle palsies.

Believing that the symptoms warranted an exploration, I requested Dr. Frazier to operate over the left motor area, and the brain was found distinctly diseased in this part. A portion of the tissue was removed, as at the operation it was impossible to exclude glioma, as the diseased tissue, especially after the brain had been exposed a short time resembled glioma. When the flap was first turned back the lesion impressed us as probably one of encephalitis. The microscopic examination revealed polioencephalitis.

The extreme difficulty that may occur in diagnosing between polioencephalitis and brain tumor is well shown by this case, as papillitis is not a common sign of the former condition, although known to occur. I am quite sure that fever was not present at any time while the child was under my observation, and no statement regarding the existence of fever was made by those who had had charge of her in the onset of the symptoms. The temperature charts taken at the hospital were mislaid.

For a time hemiplegia was increased after the operation, but power was regained later on the right side to the extent that the gait showed only a little limp, but the paralysis of the right upper limb was pronounced.

In the report of the committee appointed by the New York Neurological Society to study the epidemic of poliomyelitis occurring in New York during the summer of 1907, embracing an examination of 2,000 cases, Dr. B. Sachs[15] remarked that few cases lent support to Strümpell's view that there is a polioencephalitis closely allied to poliomyelitis; and yet non-purulent polioencephalitis unquestionably occurs, as shown by the case referred to. I have specimens also from three or four other cases.

In another case the diagnosis had to be made between cerebral thrombosis and brain tumor. This usually causes little perplexity, but the following case in the service of Dr. John H. Musser shows that the diagnosis may not be easy. The man had had the symptoms about a year, namely, frontal headache, later left-sided headache, word-blindness, occasional loss of memory, vertigo, nausea, vomiting, subjective weakness of the right upper limb, later paraphasia, some word-deafness, right lateral homonymous hemiamblyopia, dissociation of color sense, and ataxia of the right upper limb. The case has been referred to in my recent paper[16] read at the meeting of the American Medical Association in June, 1909.

The diagnosis between tumor and softening from thrombosis was not easy. The absence of papilledema did not exclude tumor, as I have known glioma of the occipital lobe to reach a considerable size without causing any swelling of the disc. There was unquestionably a gradual increase in symptoms, and this was very suggestive of tumor, but the increase seemed to occur rather abruptly, within a few days, and then no further increase was observed for weeks. This might occur in tumor, and is sometimes seen in thrombosis when the thrombus extends further in the vessel first occluded, or extends into a branch of this vessel. The age of the patient could not help us, for while thrombosis is not uncommon at the age of 60, glioma also may develop at this period.

There could be no doubt as to the position of the lesion. The word-blindness, word-deafness, right lateral homonymous hemiamblyopia, etc., made the first temporal convolution of the left side the seat of the lesion.

The visual disturbance in this case was very interesting. At no time could I find complete hemianopsia. The man could always recognize the movements of objects in the right fields, but he could not distinguish well between objects in these fields, and was positive that he saw them less distinctly than he did in the left fields. Here probably was an important sign in favor of thrombosis. It might readily be overlooked and called hemianopsia, but in my examinations it was never more than hemiamblyopia. It indicated in connection with the other symptoms that a lesion was present which had a considerable superficial extent in order to produce word-blindness, word-deafness, etc., and yet did not extend far toward the optic radiations, which are not remote from the first temporal convolution. Such a lesion would more likely be thrombosis than tumor. Therefore, in the indications that the growth was large but chiefly superficial, and in the rather abrupt increase of symptoms, we had two signs in favor of thrombosis rather than tumor.

After careful consideration, even though the diagnosis of thrombosis of the posterior branch of the middle cerebral artery was made as probable, exploration seemed advisable, as it was at least possible that a tumor would be found. The patient and his relatives wanted some active intervention. I therefore requested Dr. Frazier to expose the brain with the posterior part of the left first temporal convolution as the center of the opening. The operation revealed unmistakable thrombosis in the region diagnosed as affected, and a piece of the diseased tissue excised and examined microscopically showed softening. The man made an excellent recovery.

Another case resembling the one just reported was one I had the opportunity of studying in 1900 in association with Dr. Mills, under whose care the patient

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[15] Sachs: Jour. Nerv. and Ment. Dis., Oct. 19, 1909.

[16] Spiller, W. G.: Brain Tumor, THE JOURNAL A. M. A., Dec. 18, 1909, liii, 2078.

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The symptoms of brain tumor may be caused by a variety of lesions, especially well recognized in this connection are brain abscess, hydrocephalus and meningitis, more commonly the syphilitic or serous variety of the latter, and a considerable amount of literature has appeared on pseudotumor. My attention has been called recently to some of the rarer lesions of the brain which may simulate tumor closely, and because of their infrequency may be more likely to cause a mistaken diagnosis, and even lead to operation. Of these lesions, polioencephalitis, thrombosis of the cerebral vessels, and thrombosis of the venous sinuses are especially noteworthy.

The following is a case illustrative of the difficulties that may be caused in diagnosis by polioencephalitis:

A girl, 14 years of age, was referred to me by Dr. F. H. Macfarland, June 24, 1908. She had been well until about six weeks previously, at which time the right lower limb began to grow weak, and in about one week the right upper limb also became weak. The paresis of these two limbs became gradually greater and was associated with nausea, vomiting, headache and unilateral convulsions.

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[14] Knapp: Monatsschr. f. Psychiat. u. Neurol., October, 1905, p. 309.

At my examination after her entrance to the hospital the child was weak in the lower part of the right side of the face, and in the right upper and lower limbs, especially in the lower limb. No form of aphasia and no disturbance of sensation were present. The tendon reflexes were exaggerated, the right more than the left, and patellar clonus was obtained on the right side. Bábinski's sign was pronounced on the right side.

One of the convulsive attacks was carefully observed. It began with numbness in the right upper limb and soon extended to the right lower limb; the right side of the face was drawn up and held rigidly distorted. The left side of the body was not implicated. The right side of the body was rigid about four minutes, without any clonic movements, and the child was unable to move the right upper and lower limbs about two hours following the attack. She did not lose consciousness.

It is very evident from the record here presented that we had to deal with a focal lesion of the brain. The duration of symptoms for about six weeks; headache, nausea, vomiting, progressively developing right hemiplegia, right-sided convulsions, made the diagnosis of location in the motor region positive, especially as all sensory disturbances and hemianopsia were absent. The symptoms were those of some lesion gradually increasing in size, and more like those of tumor than any other lesion. This diagnosis was rendered more probable by the report from Dr. de Schweinitz, which was as follows:

> Vision 5/6 in each eye. Beginning papillitis in each eye; nasal, upper and lower margins obscured, temporal still visible, veins full. Pupils react normally, no muscle palsies.

Believing that the symptoms warranted an exploration, I requested Dr. Frazier to operate over the left motor area, and the brain was found distinctly diseased in this part. A portion of the tissue was removed, as at the operation it was impossible to exclude glioma, as the diseased tissue, especially after the brain had been exposed a short time resembled glioma. When the flap was first turned back the lesion impressed us as probably one of encephalitis. The microscopic examination revealed polioencephalitis.

The extreme difficulty that may occur in diagnosing between polioencephalitis and brain tumor is well shown by this case, as papillitis is not a common sign of the former condition, although known to occur. I am quite sure that fever was not present at any time while the child was under my observation, and no statement regarding the existence of fever was made by those who had had charge of her in the onset of the symptoms. The temperature charts taken at the hospital were mislaid.

For a time hemiplegia was increased after the operation, but power was regained later on the right side to the extent that the gait showed only a little limp, but the paralysis of the right upper limb was pronounced.

In the report of the committee appointed by the New York Neurological Society to study the epidemic of poliomyelitis occurring in New York during the summer of 1907, embracing an examination of 2,000 cases, Dr. B. Sachs[15] remarked that few cases lent support to Strümpell's view that there is a polioencephalitis closely allied to poliomyelitis; and yet non-purulent polioencephalitis unquestionably occurs, as shown by the case referred to. I have specimens also from three or four other cases.

In another case the diagnosis had to be made between cerebral thrombosis and brain tumor. This usually causes little perplexity, but the following case in the service of Dr. John H. Musser shows that the diagnosis may not be easy. The man had had the symptoms about a year, namely, frontal headache, later left-sided headache, word-blindness, occasional loss of memory, vertigo, nausea, vomiting, subjective weakness of the right upper limb, later paraphasia, some word-deafness, right lateral homonymous hemiamblyopia, dissociation of color sense, and ataxia of the right upper limb. The case has been referred to in my recent paper[16] read at the meeting of the American Medical Association in June, 1909.

The diagnosis between tumor and softening from thrombosis was not easy. The absence of papilledema did not exclude tumor, as I have known glioma of the occipital lobe to reach a considerable size without causing any swelling of the disc. There was unquestionably a gradual increase in symptoms, and this was very suggestive of tumor, but the increase seemed to occur rather abruptly, within a few days, and then no further increase was observed for weeks. This might occur in tumor, and is sometimes seen in thrombosis when the thrombus extends further in the vessel first occluded, or extends into a branch of this vessel. The age of the patient could not help us, for while thrombosis is not uncommon at the age of 60, glioma also may develop at this period.

There could be no doubt as to the position of the lesion. The word-blindness, word-deafness, right lateral homonymous hemiamblyopia, etc., made the first temporal convolution of the left side the seat of the lesion.

The visual disturbance in this case was very interesting. At no time could I find complete hemianopsia. The man could always recognize the movements of objects in the right fields, but he could not distinguish well between objects in these fields, and was positive that he saw them less distinctly than he did in the left fields. Here probably was an important sign in favor of thrombosis. It might readily be overlooked and called hemianopsia, but in my examinations it was never more

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[15] Sachs: Jour. Nerv. and Ment. Dis., Oct. 19, 1909.

It is well to remember that a cyst of the cerebrum or cerebellum is usually in association with tumor, and it is proper, therefore, to search for tumor when a cyst is found at operation. In one case (No. 326) the diagnosis of cerebellar tumor was easy. The improvement after the finding and evacuation of a cyst was striking, but it became my painful duty when informed of the results by letter to suggest that caution was needed. I much feared that the evacuation of the cyst would produce only temporary relief by diminishing the pressure on the brain. Such proved to be the case, and a glioma of the cerebellum was found later. A cyst is very often associated with a glioma.

The important question as to whether Jacksonian epilepsy is a sufficient cause alone for operation on the brain is of importance. The Jacksonian spasm in a case (Davenport) observed by me was for about a year and a half the only sign of cerebral lesion, and it was not until after this period that slight motor aphasia and slight hemiparesis developed. Headache and papilledema were not symptoms. I felt that an exploration of the brain was desirable, because convulsions strictly unilateral occurring occasionally during eighteen months were very suggestive of focal lesion, and such a focal lesion most likely would be tumor. The existence of idiopathic unilateral epilepsy has been discussed, and such a condition is clearly recognized, even status hemiepilepticus of idiopathic character. Shall we or shall we not operate in such a case as that mentioned above? I am distinctly in favor of exposing the brain at the region indicated by the symptoms. The possibility that we may not find anything abnormal is not to be ignored, and yet the hope in operating on brain tumors lies in the removal of the tumors while they are small. The motor area responds promptly to the irritation of a small tumor that might remain latent in many other parts of the brain. If this recommendation be followed, operations will probably be performed without revealing tumors, but that is the less of two evils. I am well aware also that the mere opening of the skull may prove fatal, occasionally by infection of the brain, as when a patient in stupor disturbs the bandages; or by postoperative hemorrhage from a small vessel, or by injury of one of the large venous sinuses with extensive hemorrhage, or when a piece of bone is removed for decompression and occlusion of vessels in a cerebral hernia occurs with extensive cerebral softening, or, still more rarely, from some unknown or remote cause as pulmonary embolism. I have seen death produced in all these ways, and yet we must remember the extreme seriousness of brain tumor; that operation alone affords any hope of recovery or of prolonging life, unless perhaps in tumor of the pituitary body, which is often of slow growth; and that operation must be done early if it is to be successful. Therefore, when symptoms are persistent, indicate a focal lesion of the brain, and are gradually increasing, even though general symptoms of increased intracranial pressure are absent, such as papilledema, headache, nausea and vomiting, I believe that as a general rule operation is advisable if the lesion, as shown, for example, by Jacksonian epilepsy, gives any reasonable hope of being found near the surface of the brain. Palliative operation is not to be considered in such a case as I have described, because the occasional unilateral spasms, the slight aphasia and slight hemiparesis would not seem to warrant it. Decompression, in my opinion, is more serious than mere exposure of the brain with return of the osteoplastic flap to its proper position—more serious because from the removal of a portion of bone, the size or less than the size of a silver dollar, a hernia cerebri is very likely to occur, and sometimes the hernia becomes very large, even becomes infected and forms fungus cerebri, or by pressure of the brain against the bone and occlusion of vessels leads to extensive cerebral softening.

In one of my cases of probable tumor of the pituitary body (G. S.) in which the most important symptoms were bitemporal hemianopsia, some mental dulness, tendency to jocosity, and marked asthenia, a peculiar sexual disturbance was present, first detected by Dr. Thompson S. Westcott, under whose care the patient had been. This patient had failure of ejaculation with preserved normal sexual desire and normal erection. It is well known that the genital functions in both male and female are impaired or lost as a result of lesion of the pituitary body, but the dissociation of the sexual functions, as manifested in this case, is unusual, and like that which sometimes occurs from lesions low in the spinal cord.

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tions of one to one hundred, one to five hundred and one to one thousand.

The difference in the growth is very pronounced, although all are treated exactly alike in other respects. The seeds treated with pure water come up strong and vigorous; those treated with alcohol and water show a decided retarded growth, and many of them die.

The uniform inferiority of the plants treated with alcohol and their stunted defective growth indicates the poisonous action of alcohol on the cells. This experiment can be repeated in a great variety of ways on ordinary flowering plants or the growth of seeds seen in a transparent medium.

A very common experiment of dwarfing puppies for the purpose of changing the breed by giving alcohol in food is another very marked illustration. The small quantity of alcohol used indicates beyond question its continuous toxic action on protoplasm.

Under very high microscopic power, cells when immersed in a medium containing very minute quantities of alcohol shrink and become distorted; evidently there is some dehydrating effect, absorption of water, retraction of the hyaloplasm and, no doubt, a paralyzing irritant action.

A larger solution of alcohol makes greater impression on the walls of the cell; the granules gather in clusters, their activity ceases and their forms break down.

The inference is unmistakable that the same action so marked on cell life in plants and animals is the same in the human body, and that its toxicity to protoplasm is beyond all question.

### ALCOHOL AS A CHEMICAL POISON

This action is equally prominent. The sensation of coldness following its application on the surface of the body is due to its rapid absorption of water. When alcohol is taken in the mouth as a beverage, this dehydrating property is so pronounced as to produce irritation and this would rapidly lead up to inflammation. Hence the use of water with spirits is physiologic and simply an effort to overcome its corrosive action.

This chemical absorption of water by alcohol extends to every tissue with which it comes in contact until it reaches the point of saturation. The feeling of warmth in the stomach is the first stage of irritation which would rapidly extend to inflammation and pain.

The value of alcohol applied to the surface of the body as a refrigerant or cooling substance is its chemical, dehydrating, water-absorbing properties. An alcoholic sponge bath is simply chemical absorption of the moisture on the surface of the body, and thus diminishing the temperature, but principally drawing the water off from the capillaries.

This dehydrating property is very marked; an examination of the blood shows it in the shriveled blood corpuscles and diminished phagocytes, particularly in persons who are paralyzed and profoundly intoxicated. The temperature is lowered and the functional activity is reduced almost to the point of suspension.

Some very interesting studies have been made of the resistance and immunity of the body to this chemical absorption and derangement of the fluids. While the dehydrating effects are uniform in a general way, there are some organs which seem to suffer more than others. The corrosive effects are not noticed in all the organs alike.

Sometimes the liver, the kidneys or the brain tissues are most markedly disturbed. In other cases they are less so. There can be no question about the two conditions present; one, the abstraction of water from the cell and tissue, the other the coagulation of albumin, the deposit of fibrin and the pronounced disturbance of the balance necessary to carry on the uniform functions of the body.

### ALCOHOL AS A CIRCULATORY POISON

The effect of alcohol on the circulation is very evident from the increased action of the heart, the congestion of the blood-vessels of the face and other significant signs. This increase of the action of the heart is followed by depression, and with instruments of precision the rise and fall of the heart's action is measured with exactness.

The muscular output from the increased action of the heart is followed by a similar diminution in exact ratio to the high level which it had attained. This toxic action due to the suspension of the control centers and vasomotor paralysis can be studied on the mucous membranes and the congestion of the face, and extends, disturbing the circulation, to the liver, kidneys, brain and all the vascular organs.

Often the face is a good index to this deranged circulation, and paralysis of the facial nerves extends to the brain. The man with an alcohol-paralyzed face has a similar derangement of the cortex of the brain.

The physiologic effect of deranging and paralyzing the circulation of the blood in the veins and arteries is followed by a diminished absorption of gases, defective distribution of nutrient plasma, and checked elimination of waste products. The direct result is poisoning and starvation, with depression, fatigue and finally organic changes.

This particular poisonous effect on the circulation extends to the respiratory system and is manifested in various ways. The diminution of the vasomotor control of the arteries and veins is followed by congestion, formation of toxins, and the retention of waste matter.

The spasmodic action of the heart to overcome this condition and restore the lost balance is noted in fatigue, which falls most heavily on the lungs and nerve centers. Hence, pneumonia, occurring in persons who have used spirits, is very frequently fatal, because of the defective circulation, vasomotor paralysis of the capillaries and diminished vitality. Giving alcohol as a remedy for this condition is increasing the difficulty and making fatality more certain. In the same way, giving spirits for tuberculosis has no support in any modern physiologic or pathologic studies.

At the recent antialcoholic congress in London two papers were read on the increased mortality in cases of pneumonia from the use of spirits as a remedy. A study of over 2,000 cases, in which half were treated without spirits, showed a mortality of 31 per cent. when spirits were used, and without it 19 per cent.

In another study of 500 cases of tuberculosis, the use of alcohol was followed by a mortality 40 per cent. higher than in those cases in which no spirits were given. There is evidently a very wide field here in which the poisons of alcohol on the circulatory system when fully recognized will revolutionize many of the practices of to-day.

### ALCOHOL AS A POISON TO THE BRAIN AND NERVOUS SYSTEM

The effect of alcohol on the brain and nervous system is familiar to all ordinary observation. The intoxicated man on the street either stupid or with delusions shows the toxic action of alcohol very markedly. These extreme toxic stages are only terminal conditions of and hundreds from death, to say nothing of the secondary typhoid fever spread by these soldiers throughout the country during their convalescence, for, as is now known, about 4 per cent. of persons who have typhoid fever become chronic carriers of the disease, through the presence of typhoid bacilli either in the stools or urines, or both. Similar conditions obtain in cholera and dysentery.

The rôle of carriers in the spread of these infections is a most important one, and one unsuspected until within recent years. The knowledge that such individuals may exist in any community will strengthen to a very great extent the hands of the health officer in checking the ravages of these diseases, but this source of infection could never have been discovered had not the lives of many animals been sacrificed in establishing the identity of the specific organism.

Protective inoculation for typhoid fever has been introduced recently into the United States army. I have instituted this practice[5] at the Massachusetts General Hospital among the nurses and ward tenders, who, during the summer and fall seasons, are especially exposed to this disease.

Stimulated by the success attained through the use of antitoxin in diphtheria, much experimentation has been done in an effort to secure similar protective serums for cholera, dysentery and typhoid.

With cholera, the results thus far have not been very encouraging. In dysentery, however, favorable reports of serum treatment of those afflicted with the disease come from Russia, France, England, Austria and Japan. Shiga, for instance, treated 298 dysentery patients with a death-rate of from 9 to 12 per cent. In 212 patients treated with drugs the mortality was 22 to 26 per cent. In typhoid fever, Chantemesse[6] treated 1,000 cases with a death-rate of 4.3 per cent. Of 5,621 patients to whom routine treatment was given during the same period, 17 per cent. died.

As the result, therefore, of the combined studies of research workers throughout the world during the past thirty years, we know what causes cholera, dysentery and typhoid; we know how the diseases are transmitted; we know how to determine whether or not an individual has one of these diseases; we know how to protect a human being against these diseases; and, finally, how to help him intelligently when he is sick.

To gain this knowledge, experimentation on many thousands of animals has been necessary. Can there be any doubt that this experimentation has justified itself?

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# ALCOHOL AS A POISON

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The very common theory that alcohol is a tonic and stimulant, at times a valuable medicine, and always a safe beverage, when used in small quantities and with care, and when the quality is good, is fallacious and has no support in modern scientific studies.

The toxic action of alcohol is a well-recognized fact. Its poisonous action depends on the quantities given over long periods of time. A presumptive theory is urged that this drug has two distinct physiologic actions, one tonic and beneficent, the other toxic and destructive, and that the province the physician in using it is to know how to secure the former effects and avoid the latter.

This opinion, in many instances, is accepted without question. In reality, there are many drugs whose toxic and destructive action on cell and tissue are controlled and made to contribute to medicinal purposes.

Thus, opium is a toxic agent, yet in small doses this narcotic toxic action on the cells and nerve terminals may be made to contribute to restoration by diminishing the sensitiveness and activity of the cells. Again, the anesthetic properties of alcoholic ethers in chloroform and sulphuric ether are distinct poisons, and yet their use has made possible the most brilliant work in surgery.

The toxicity of alcohol has been emphasized more and more with every advance in scientific medicine. The unfounded theories of the past built up on delusive experiences and perpetuated in text-books are disappearing with every exact laboratory study and clinical research.

These researches point out conclusively that alcohol has a toxic action on cell and tissue, varying only in accordance with the quantities used, and that physiologically it is the same in all conditions, the difference being in degree, and that previous studies of its therapeutic effects furnish no guide which can be followed except after critical examination and study. In brief, the alcoholic problem, including the action of alcohol and the results which follow, must be studied at the bar of scientific analysis, irrespective of all theories, opinions or conclusions of the past.

## ALCOHOL A PROTOPLASMIC POISON

A poison is clearly defined as any substance which acts on living cell and tissue to destroy its power and impair its activity. Alcohol is clearly a poison according to this definition.

Dr. Kesteven, of London, in a recent study, showed that alcohol was distinctly toxic to the ameba, and the simplest forms of protoplasm. These cells being concentrated in the microscopic field and treated to a 1 per cent. solution of alcohol, a distinct narcotic action was apparent which lasted several hours.

In a 2 per cent. solution the narcotism was deepened and every cell was stiffened. Some of them died. Others recovered after a while. In a 4 per cent. solution a very large percentage died, and a 5 per cent. solution was fatal to all cell life.

This experiment can be repeated in every laboratory and is confirmed by a great variety of studies in other directions, showing that alcohol is a distinct protoplasmic poison. A number of observers have shown that this poisonous action is due to the retarding power of the cell to absorb oxygen.

The action of alcohol on lower forms of cell life has been the subject of many remarkable investigations.

Professor Rauber of Vienna, the late Drs. Richardson and Ridge of London, and Professor Hodge of Worcester have conducted extensive experiments, showing that alcohol is not only a narcotic and paralyzing agent on protoplasm in all forms, and that this is apparent in very small doses, as low as one drop of alcohol to a thousand drops of water, but that it is also injurious to cell life.

A very common experiment can be made with the growth of plant life and seeds. Thus pots containing similar soil and the same kind of seeds are treated with clear water and with water containing alcohol in propor-

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[5] Richardson, M. W.: Am. Jour. Pub. Hyg., August, 1909.

[6] Chantemesse: Hygiene gé et appliqué, 1907, p. 577.

### ALCOHOL AS A SYSTEMIC POISON

Alcohol has been termed by many writers of eminence a systemic poison, and the evidence on which this view is based is the subject of very extensive literature. The central fact of this is that alcohol particularly diminishes the vitality of the body and the resisting power to overcome disease. Professor Laitiner, in the Norman Kerr Lecture, recently delivered in London, brought out this fact very prominently, in the conclusions of his laboratory studies, extending over several years and based on an examination of over 300 persons. He showed that the normal resistance of the red blood corpuscles was diminished to a measurable extent in all cases in which alcohol was used, and that the bactericidal power of the serum against germ disease, particularly typhoid, diphtheria and other infections, was pronouncedly impaired. The final conclusion from over 1,000 examinations was that from 2 to 4 drams of alcohol showed their injurious influences in the blood-counts and serum-resisting forces of the body. This highly technical paper, which was remarkable for the exact mathematical deductions, will soon be published in full.

Clinical experience brings a great variety of evidence confirming this fact, that the vitality and resisting power of the blood and nerve energies are lowered, and that alcohol is a systemic poison, not only in destroying reparative forces, but in diminishing the combative powers of the blood-cells and developing toxic germs whose activity is noted in the entire body.

This systemic poison is registered in the high-tensioned arteries from vasomotor paralysis, the deposit of fibrin in the liver and other tissues, and the final sclerotic conditions so common in persons who use spirits. It is a clinical fact that the fibrinous deposits due to alcohol resist medication and are practically unresolvable by therapeutic agents, except in the most general way, whereas tumors and growths from specific poisons, tuberculous deposits and syphilis are readily influenced by various drugs and resolvable by a variety of measures.

Belief in the toxic action of alcohol from the smallest measurable doses is supported by a great variety of evidence that is remarkable in its uniform conclusions, particularly that this poisonous action is narcotic, anesthetic and paralyzing in diminishing and lowering the activities of the body.

To all students of this subject it is evident that the wide-spread use of alcohol as a beverage and the delusive theories which have grown up about it in medicine are due exclusively to its fascinating, narcotic action for relief of pain, discomfort and suffering. It is not stimulation that is sought for, but narcotism, anesthesia and relief.

Some of the conclusions from this outline study may be stated as established beyond all question or doubt:

1. The particular poisonous action of alcohol begins with its dehydrating properties, extracting the water from the cell and tissue so rapidly as to produce irritation, then narcotism. The ethers of alcohol, such as chloroform and similar substances, act specifically on the sensory centers, paralyzing them and cutting off all activity. These ethers vary in their action and specific poisonous effects through a wide range, but are all dehydrating and paralyzing in their action.

2. Alcohol acts specifically on nerve cells and nerve centers, cutting off the sensations and disturbing the capacity to judge and reason, particularly of the surroundings and the relations to them. One fact standing out above all others has startling significance, namely, the highest and last-formed faculties of the human brain, the consciousness of right and wrong, the ethical conceptions of duty and responsibility, are the first to become anesthetized and paralyzed from the effects of alcohol.

The third toxic effect of alcohol is its diminution of vital power and capacity to resist disease and degeneration of any form. The defenses of the body are diminished and the conservative reserve powers lowered.

As a result mortality is increased, liability to disease intensified, and capacity for restoration and recovery lessened. This is confirmed in every day's experience. The treatment of all kinds of fevers and local inflammations, and particularly all kinds of surgical operations, is far more difficult, grave and uncertain where the person has used spirits. This is a clinical fact outside of all theories and explanations.

Finally, the toxic action of alcohol, whether given in small or large doses, is not a matter of theory or opinion. There is one fact becoming more and more prominent, namely, that the subject of the action of alcohol covers a wide unknown territory, and that it is exceedingly dangerous to dogmatize and state positively what is and is not true.

The few outline facts which I have given are like mountain-peaks, and the wide ranges of country between them are unknown. I cannot conclude without referring to the unfortunate position of physicians toward the alcoholic problem.

The startled public, led by reformers, clergymen and enthusiasts, is making a great effort to accomplish some practical reform to overcome the alcoholic evil of to-day. Rapacious quacks profit by the situation, making the most delusive assertions and claiming miraculous results; and the medical profession stands by indifferent or in the attitude of sneering critics.

There is no evil of greater magnitude, none of which the cure so entirely pertains to medicine and hygiene, and none so closely related to the work of physicians, as the alcoholic problem. A new and practically unoccupied realm of practice both for preventive and curative measures, is before us. Every medical man should be the teacher and leader in the community, and not the follower of blind theories and stupid delusions.

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# THE BACTERIEMIA THEORY OF TUBERCULOSIS

## A REFUTATION

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During the past few years Dr. R. C. Rosenberger, of Philadelphia, has made a series of contributions, first, with reference to the reliability of the various methods of staining the tubercle bacillus and other acid-proof bacilli and their resistance to decolorizing agents; second, with reference to the frequency with which tubercle bacilli occur in the feces of tuberculous patients; and, third, with reference to the presence of tubercle bacilli in the blood of persons afflicted with tuberculosis. The logical outcome of these studies, which we know from personal observation were conducted with great pains, patience and perseverance, was a new theory of tuberculosis constructed on the successive steps embraced by the researches. Thus Rosenberger first came to the conclusion that for all cases in which differential staining was to be performed the Pappenheim reagent was indispensable; with the aid of this reagent he was able to satisfy himself that tubercle bacilli were constantly present in the feces, not only of those tuberculous patients whose open pulmonary lesions made it probable that they frequently swallowed sputum, but also of those whose closed, partly healed or deeply seated lesions made it evident that the only means by which the bacilli could reach the intestinal contents was by excretion through the liver or intestinal glands from the blood, and that therefore they must circulate in the blood prior to such elimination. Scant attention was paid to Rosenberger's opinions until the final step in the argument was reached and he ventured the opinion, based on 100 per cent. of positive results in a study of 300 cases, that in all cases *in which tuberculous infection of any kind occurred* the bacilli existed in the blood in numbers permitting their discovery by microscopic examination of the blood itself.

His inevitable conclusion was that tuberculosis was primarily a bacteriemia, which was followed by secondary localization of the organisms and the occurrence of the well-known lesions. This conception was so revolutionary that it could not be accepted without hesitation and without much confirmation.

That tubercle bacilli are at times present in the blood has never been doubted. The occurrence of primary lesions of the bones, joints and deeply-seated organs, and occasional cases of primary miliary tuberculosis show that there must be times when the bacilli find their way through the blood to their seat of primary localization, while the almost invariable occurrence of miliary tubercles widely distributed throughout the body in advanced and fatal tuberculosis, and the occasional occurrence of tuberculous meningitis, as a complication of advanced tuberculosis, point unequivocally to the occasional admission of bacilli to the blood in larger or smaller numbers. This well-recognized condition is, however, a very different matter from the constant presence in the blood of numbers of the microorganisms sufficient to permit their ready discovery by microscopic examination of the blood itself.

The possibility of finding the organisms by microscopic examination, not as a matter of diagnostic importance, but of scientific interest, had, indeed, occurred to one of us (Holmes) as it had probably done to many others, and in February, 1908, some attempts were made by a method suggested by another (McFarland) that did not materially differ from that later published by Staüble or that later was described by Rosenberger. As, however, it was but a matter of interest rather than importance, the attempt was abandoned after it had been made a few times without success.

When, however, it was declared that the discovery of tubercle bacilli in the circulating blood was a diagnostic method exceeding in reliability the recognition of physical signs, and when the occasional discovery of the organisms in the blood of apparently normal persons was interpreted to indicate that they were in a pretuberculous stage of the disease, it seemed time to give the new idea a sufficient amount of attention to permit a correct judgment of its truth or falsity to be formed.

Accordingly a varied series of experimental investigations were begun and carried to completion so recently that they have not yet appeared in the *Reports of the Henry Phipps Institute*. It is because of the unavoidable delay in this publication that this preliminary report is made.

The first experiments had to do with the elimination of tubercle bacilli from the circulation by the bile and succus entericus, and were undertaken by Dr. E. J. G. Beardsley, who began by a patient study of the bacteria of the feces of normal rabbits and guinea-pigs for the purpose of discovering whether any of the usual methods of staining tubercle bacilli would demonstrate the presence of acid-fast bacilli.

It was supposed that the feeding habits of these animals might result in the occurrence of saprophytic acid-fast bacilli in their intestinal discharges, but, in spite of most painstaking and time-consuming efforts, not a single acid-fast bacillus was found. The animals whose feces had been studied were next infected with tubercle bacilli, and frequent examinations of their feces continued during the progress of the disease toward its fatal termination. The guinea-pigs were injected intraperitoneally with a bacillary suspension, and rabbits were injected with a similar suspension of tubercle bacilli into the ear vein. In spite of the expenditure of much time and effort, there was not a single instance in which acid-fast bacilli were found in the feces, though they were commonly present in the urine of the animals. From these researches we were led to the conviction that the tubercle bacillus does not commonly pass from the blood to the intestinal contents either through the bile or the succus entericus.

The next step in the series concerned the length of time that the tubercle bacillus, when artificially introduced, remains in the blood of an experimental animal. It is well known that saprophytic bacteria and indifferent minute particles, if introduced into the streaming blood, are quickly caught in the capillaries and so disappear. To determine whether this was true of the tubercle bacillus, we prepared a fairly homogeneous suspension of dead tubercle bacilli, by grinding them in a mortar, adding physiologic salt solution, drop by drop. After a suspension of a density somewhat greater than that employed for making the opsonic test had been prepared, it was centrifugated for a few minutes, so that the coarser clumps were thrown out and a homogeneous suspension secured. When this was stained and examined it showed the bacilli well divided, clumps of any magnitude few in number, and some of the bacillary substance pulverized by the action of the pestle.

Three cubic centimeters of this suspension were thrown into the circulation of a large white rabbit by means of a hypodermic needle inserted into the posterior marginal vein of the left ear. Blood for examination was secured from the same vein of the other ear at intervals of five, ten, fifteen, thirty, sixty, one hundred and twenty and three hundred minutes, respectively. In order that the slides prepared from these samples of blood might be more carefully examined, two sets were prepared and given to two men in different institutions, each being told he was to check the other's work. This resulted in a rivalry of effort, each being determined that the other should not triumph over him in carefulness; but it is interesting to relate that Dr. Beardsley, who made his examinations at the Phipps Institute, and Dr. E. A. Case, who made his at the Medico-Chirurgical College, came to exactly the same results, both being totally unable to discover any acid-fast bacilli in any of the samples of blood taken from the rabbit. In view of the laborious nature of the experiment and its entirely negative result, it was thought unnecessary to repeat the work, for it seemed to us that the tubercle bacilli must follow the course of other foreign particles and quickly disappear from the circulation.

The third step was an investigation of the blood itself for the demonstration of bacilli in tuberculosis. This part of the work was undertaken by Dr. E. Burville-Holmes, the patients of the Hospital and Dispensary of the Henry Phipps Institute of Philadelphia and the Bryn Mawr Hospital furnishing the necessary cases. At first the Rosenberger technic, learned from its originator himself, was employed, but, as it involved the use of the Pappenheim stain, we found ourselves frequently disturbed by the presence of artefacts that bore some considerable resemblance to bacilli. After a number of experiences of this kind, this solution was abandoned for other methods less apt to be confusing. With this exception the Rosenberger technic was adhered to. The experiments will appear in detail in a paper to be published in the *Report of the Henry Phipps Institute,* but a brief synopsis will be given here, as they are of great interest.

Of the cases at the Phipps Institute, a total of fifty were examined. Of these, forty-nine were cases of undoubted clinical phthisis—pulmonary tuberculosis—representing nearly all the phases or stages of the disease; one was a case in which the clinical findings were, and still remain, so atypical as to make it very doubtful whether the patient is tuberculous or not. In the blood of the forty-nine patients known to be tuberculous, not a single tubercle bacillus could be found; in the one almost certainly not tuberculous, acid-fast organisms were found in very small numbers.

At the Bryn Mawr Hospital four cases were studied. They embrace the cases of (1) a child with acute miliary tuberculosis; (2) a student of the Villa Nova Seminary admitted to the hospital with symptoms atypical in character, but suggesting typhoid, who soon developed meningitis, thought to be tuberculous meningitis, and died; (3) this young man's roommate, who was admitted about a week later, also with meningitis, and in whose cerebrospinal fluid meningococci were present; and (4) an old woman with double senile pneumonia.

In all of these four cases, acid-fast bacilli were found in the blood in large numbers. The contradiction was most perplexing. At the Phipps Institute, forty-nine cases of tuberculosis and no bacilli; one case not tuberculous with bacilli, contrasted with the Bryn Mawr Hospital, where there was one case tuberculous and three not tuberculous, all with bacilli. (Here let it be said that the appearance of the second student with epidemic cerebrospinal meningitis convinced us that the first suffered from the same malady.)

We could not harmonize these perplexing results, and were much disturbed by them. Why should these organisms be found in 100 per cent. of the cases at Bryn Mawr, and always in considerable numbers, when they could be found in only 2 per cent. of the cases at the Phipps Institute and only in small numbers?

Just at this moment Brem published his paper,[1] in which it was declared that the laboratory distilled water, when permitted to stand for some time, became the habitat of an acid-fast bacillus, easily mistaken for the tubercle bacillus, admitted to the specimens of blood during the technical preparation, and leading to erroneous conclusions when the slides are studied.

This suggestion, especially because of the way in which Brem's investigations had been performed, carried conviction with it and opened our eyes to the probable source of our paradoxical results.

Rosenberger, having long before received the suggestion that the micro-organisms he found might be contained in some of his reagents, had carefully examined them, without finding any contaminating organisms, and at the Phipps Institute, the same circumstance having been mentioned, the reagents, including the distilled water, had been carefully examined with negative results.

But Brem first thought to fix the sediment, collected by centrifugation and evaporation, to the slide with albumin and so caught and retained the organisms. This plan seemed to be an excellent one, we adopted it and made a study of the laboratory distilled water at the Bryn Mawr Hospital and at the Phipps Institute. The results were of surpassing interest, for the water from the former institution was found to contain great numbers of acid-fast bacilli, not unlike tubercle bacilli, and resisting the decolorizing effect of Pappenheim's solution, while in the water of the latter institution none were found.

The whole matter immediately became clear, and our paradox explained. At Bryn Mawr, where the distilled water was full of the acid-fast organisms, they entered the blood during the sedimentation following the addition of the citrate solution, or, in the later suggested technic, during the laking of the blood, being caught in the soft film of adhesive material and fixed with it, and so were present in all the specimens of blood derived from tuberculous or non-tuberculous cases. At the Phipps Institute, where the water must have contained exceedingly few of the organisms, they contaminated only one of the many preparations made.

From these experiments and experiences we feel constrained to believe that Rosenberger has been the unfortunate victim of a mistake, the peculiar character of which it was exceedingly difficult to discover. We believe that the presence of these "water bacilli" in the preparation explain most of the cases in which what were supposed to be tubercle bacilli were found in the blood or feces, and that the use of the Pappenheim reagent explains the remainder; that in consequence there is every reason to believe that tubercle bacilli do not often circulate in the blood in quantities capable of ocular demonstration; and that the deductions made by Rosenberger (that tuberculosis is primarily a bacteriemia, and that the easiest and earliest means of arriving at a diagnosis is by an examination of the blood) are unsupported by reliable evidence.

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# MIGRAINE *

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In this brief review I shall limit myself to a discussion of what by analogy might be termed "idiopathic megrim" as opposed to the symptomatic hemicrania which we occasionally meet as a manifestation of hysteria, in cases of general paresis, of tabes, of focal lesions of the brain, of periodic ophthalmoplegia and even less frequently in other organic lesions of the cerebrum. This distinction is one which is not infrequently ignored in practice as well as in the literature on the subject, a fact which has undoubtedly contributed in no small measure to the many differences of opinion among the authors.

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[1] Brem, Walter V.: Investigation of Blood for Tubercle Bacilli, The Journal A. M. A., Sept. 18, 1909, liii, 909.

* Read before the joint meeting of the Chicago Ophthalmological and Chicago Neurological Societies, Nov. 8, 1909.

Idiopathic migraine is a disease which is slightly more common in women than in men. That it is especially frequent in brain workers, as is claimed by most observers, is denied by Moebius. A very large number of famous persons, however, have been sufferers from this malady, and many of those who have discussed it in medical literature have added to our stock of knowledge from their own experience.

The first attack usually occurs early in life—in about two-thirds of all cases supposedly before the twentieth year; and probably this percentage would appear still larger if only the cases of true idiopathic megrim were considered. In one instance, the case of Bohn, the disease is even said to have been congenital. Among the etiologic factors, one overshadows all others, and that is heredity. There is certainly no one nervous disease of a functional nature which is transmitted from parent to offspring as frequently as is hemicrania—no one in which direct heredity plays so important a rôle. In 18 out of 110 cases Kovalevsky could trace the malady through three generations, Mills in one instance even through five generations. Not solely megrim, but other nervous troubles, such as epilepsy, neurasthenic or hysterical conditions, etc., are found in the ancestry of migrainous patients. So common, in fact, is this history of neuropathic taint that it seems at least very probable that without it migraine does not occur.

Gout is supposed by English writers to have an important influence in the genesis of megrim, but the fact that the former is very common in that country and that in other regions where such rheumatic disturbances are rather rare no such influence can be traced, rather discredits the theory. That two maladies, both of which are far from rare, should often be found in the same individual, seems hardly to justify the conclusion that the one is the cause of the other. Among American physicians the theory that eyestrain may produce megrim has found much favor. From my own observation I am not inclined to consider it an important cause of true idiopathic migraine, and least of all can I induce myself to believe that it could produce the disease in a person who is not predisposed to it by heredity, so that at best it could, in my opinion, be considered an exciting cause only, rather than the *fons et origo* of the malady. The same is probably true of nasal troubles and enlarged tonsils, as well as of the infectious diseases, such as typhoid fever, measles, scarlet fever, malaria; of the intoxications, especially through alcohol and nicotin; of trauma, malnutrition, over-exertion, frequent parturition and prolonged lactation. All sufferers from megrim are familiar with the baneful influence of overexertion and worry, grief or prolonged irritation. Very strangely insomnia does not seem capable of exciting an attack. My own personal experience coincides with that of Moebius, who found that the pain was especially liable to appear after an unusually long and sound sleep; in fact, I can produce an attack in myself with almost absolute certainty by sleeping a few hours longer than is my habit. Sexual overindulgence, insolation, foul air in an overheated room, sometimes an indiscretion in diet, may bring on an attack. The vast majority of sufferers from megrim also suffer from chronic constipation. In women each menstrual flow may bring on the pain, while pregnancy—in some instances at least—brings temporary relief. Sudden changes in weather, thunderstorms, a damp atmosphere, are sometimes given as exciting factors.

Many such patients can predict the coming of an attack. For a day or so they feel depressed, tired, less energetic, irritable and cross, while with others periods of euphoria have an equally ominous significance. I never feel more happy, more energetic and buoyant than on the day preceding an attack and have long ago learned to expect a day of suffering to follow these pleasurable sensations. Others are even less fortunate, for they are troubled by all sorts of disagreeable prodromal symptoms, such as chills, gastro-intestinal distress, indefinite fear, intermittent slight pains in the head. Occasionally, even before the patient himself is conscious of the coming of an attack, his facial expression may indicate fatigue; one eyelid may droop or, in rare cases, diplopia may develop. This is often followed by the abnormally sound sleep already referred to, and on the following morning the patient awakes with the headache.

Such a prodromal stage as has just been described is far from being a constant phenomenon. It may precede or be replaced by an aura, the latter most frequently affecting the sense of vision. Almost invariably it is only one-half of the visual field that is disturbed, at least at the beginning of the attack. It is hardly necessary here to describe the various phenomena that occur—the simple feeling as though a veil were being passed in front of the face, as though one-half of the visual field were black, the spots, sometimes luminous, then again dark, the showers of sparks, the zigzag lines, either black or else in all the colors of the rainbow. Transitory hemianopsia, central scotoma, concentric limitation of the field of vision, all have been observed, these latter usually affecting both eyes.

Of other symptoms of similar import, paresthesias, beginning in the periphery of one extremity and ascending toward the trunk, those in the arms often reaching the face, lips and tongue and then spreading to the opposite side of the head as well, deserve mention. They may sometimes be associated with hypesthesia or with weakness in the affected limb.

The various forms of aphasia have been seen, both of the motor and of the sensory type. One of my patients reported a brief but complete motor aphasia in the beginning of an attack. Sometimes confusion, vague fear or vertigo may occur, as do occasionally auditory or gustatory hallucinations of a very primitive character.

In many instances neither prodromi nor aura are present. The patient retires in the best of health, often has a night of unusually sound sleep—as was already stated—and awakes in the morning with the fully developed attack on him. Pain is, of course, the most prominent feature. It is usually unilateral, or at least more marked on the one side than on the other, more often on the left than on the right side of the head, and as a rule most intense around the region of the temple and the eye, but often extending along the frontal and occipital regions, as well as along the upper jaw. Attacks do not always affect the same side in the same individual. The character of the pain varies greatly, but it is perhaps most often throbbing. It is not intermittent, but remissions and exacerbations are frequent, either spontaneous in origin or due to external causes. All external stimuli may be painful; hyperesthesia to light, to sound, to odors is common. Valleix's points are frequently sensitive to pressure, as are other points along the head. A moderate degree of mental depression is common; somnolence and stupor are rarer phenomena. The affected side is often warmer to the touch than the other, and in that case the temporal arteries are prone to be more prominent, but abnormal local pallor may occur as well as alternating pallor and redness.

The action of the heart is not commonly altered, but occasionally bradycardia has been noted. The conjunctivæ are often injected; there may be lacrimation, and sometimes the distance between the two lids is lessened on the affected side. The latter symptom may perhaps have its origin in the existing photophobia, which leads to a partial closing of the eye. The pupils are often contracted, rarely dilated and often unequal, Moebius' statement to the contrary notwithstanding. Next to the pain and eye symptoms, gastro-intestinal disturbances are of greatest importance. In severe attacks it is usually impossible for the patients to take any nourishment at all, all such attempts leading to nausea and vomiting. Even a small quantity of water or the administration of drugs in any form by mouth may lead to this unpleasant result. But even independently of the ingestion of food, nausea is an almost constant symptom of an attack and it often leads to emesis, which may or may not terminate the seizure. Often we see diarrhea, either with or without colicky pains, and these again may or may not mean the end of the suffering. Obstinate constipation is, however, probably more often met, and in my own case at least there is very peculiar abdominal sensation, which I have also experienced in myself during an attack of ptomain poisoning. It is hard to describe and may perhaps best be characterized as a negative sensation, the absence of a sensation normally present, which I am inclined to attribute to the absence of the normal peristaltic movements. At such times my intestinal tract, ordinarily very sensitive to cathartics, fails to react to their administration.

In some instances, eructations, spasmodic sneezing, a profuse flow of tears, hyperidrosis, epistaxis or polyuria may terminate the attack. Mangelsdorf claims repeatedly to have seen a temporary dilatation of the stomach during the attack, which gradually lead to a permanent atony of the walls of that organ. Hemorrhages into the sclera or other parts of the eyeballs have been reported as rare occurrences.

Mantoux observed four tuberculous patients who had migraine, in whom the temperature would invariably drop with the onset of the headache, occasionally below the normal, as low as 96.8 per rectum. Both he and Steckel had seen a similar hypothermia in non-tuberculous individuals.

Russow found that the number of lymphocytes in the blood was increased in migrainous persons, slightly during the free interval only, markedly while the pain lasted. This increase seemed to bear a direct relationship to the frequency as well as to the intensity of the attacks.

Finally Gordon's paper on "Migrainic Psychosis" is deserving of brief mention. He reports 12 cases of transitory mental disturbances associated with megrim, of which several, however, are clearly epileptic, while two seem distinctly hysterical. The forms observed were: confusion, mild stupor with hallucinations, sometimes vague unsystematized delusions and delirium.

The attacks have an average duration of approximately twelve hours, varying, however, between a few minutes and several days. I have myself suffered from migraine for three days at a time. A patient seen very recently had daily mild attacks lasting only a few hours, and every two or four weeks a severe one, lasting all day. Sometimes they occur at regular intervals, as, for instance, in women with each menstrual period. In most cases the trouble appears in a mild form early in life, increases in intensity with adult age, the period of greatest stress, and then gradually moderates with advancing years. Occasionally a severe intercurrent illness seems to cause the megrim to disappear. Moebius mentions two cases in which tabes acted in this way. The menopause not infrequently brings an amelioration, sometimes a cessation, but it has been known to produce the opposite effect.

It has been asserted by some and denied by others that migraine may result in permanent hemiplegia, amaurosis, aphasia and epilepsy. The majority of such cases were undoubtedly instances of symptomatic rather than of idiopathic hemicrania.

Little can be said about the prognosis of the disease that has not already been given. The disease usually lasts the greater part of life, probably never terminates fatally, very rarely produces really grave results. Treatment rarely brings complete relief, but from my personal experience and that with my patients I should conclude that a marked improvement may often be obtained by a long-continued course of treatment. In my own case it has been possible to reduce the frequency of the attacks materially and to modify them so that they no longer incapacitate me from my work, and that at a time of life at which exactly the opposite development was to be expected. As a curiosity I wish to mention one patient, who for many years had been a sufferer from megrim as well as from exophthalmic goiter and who, when the latter disease had been very beneficially influenced by the serum of the thyroidectomized animal, ceased to have attacks of migraine.

Prophylactic treatment seems practically out of question. If we were to advise our migrainous clients not to marry, they would probably laugh at us, and, even if they did not, such advice would hardly seem justified. Where we have reason to suspect a predisposition for the disease, a simple mode of living, plenty of fresh air, a late beginning of school education, avoiding of excitement and mental exertion and—where a tendency to constipation exists—the administration of salines at regular intervals may be suggested. If we can influence the choice of occupation in such an individual, a vocation which will keep the patient out of doors should be counseled. Meat should be taken only in moderation, alcohol prohibited altogether, coffee and tobacco used only in small quantities and sexual excess avoided. A proper climate, preferably one that is dry, sometimes brings relief. Excessive mental work, excitement and anger, living in rooms with foul air, much "society," indiscretions in diet are to be shunned as much as possible.

Of drugs, the bromids have found enthusiastic advocates in Charcot and others. They recommend that the drug be continued for some time, perhaps with larger doses whenever there is any indication of a threatening attack. I have tried this treatment thoroughly and have had but very little success with it. The salicylates and the host of coal-tar anodynes are often useful and may sometimes abort an attack. Salipyrin especially has given me satisfactory results in a number of instances. Gowers recommends nitroglycerin in those cases in which the face turns pale. My personal experience does not justify me in expressing an opinion as to its value. Cannabis indica often is helpful in an attack. It is hardly necessary to state that the opiates should never be used if there is any other method of procuring relief. Hydrotherapy, massage, gymnastics, electricity are all of them useful in improving the patient's general health, the most important thing in the treatment of this malady. Gentle massage of the painful area often decreases the suffering. That an existing tendency to constipation requires careful attention need hardly be emphasized. During the attack a cup of strong coffee, the application of menthol to the temple, a mustard plaster to the back of the neck, an ice-bag to the head, may be soothing. Oppenheim claims marked improvement in many cases from the administration of arsenic, in some even a cure. Moebius mentions the curious fact that in some of the milder cases mental effort brings relief. I can confirm this statement from personal experience. The reading of a novel will not do it, but the study of an involved problem, one that requires the closest attention, often stops the pain with me.

What is *migraine?* A neurosis, say the text-books. That, translated into plain English, simply means that we know nothing of its pathology. The old theory of the sympathetic nerve origin has long since been dropped by most physicians, and it appears more than probable that the brain is the seat of the disease. That is as far as our knowledge goes. The rest is theory. That in these days it could not escape the fate of all mysterious diseases, that of being considered the result of autointoxication, is a matter of course. Those who hold this belief cannot prove it; those who do not share it cannot disprove it. There is no denying, however, that strong arguments can be advanced in its support. With a brief reference to the view that megrim is a manifestation of epilepsy I shall conclude these remarks. While in some details a superficial resemblance may be traced, in all essential and important features the two diseases seem to bear but a scant resemblance.

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# THE DIAGNOSIS AND TREATMENT OF AMEBIC ULCERATION OF THE LARGE INTESTINE *

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I have chosen the designation "amebic ulceration of the large intestine" instead of the customary "amebic dysentery" in order to emphasize several points which seem to me of vital importance to a profitable study of the subject:

1. The *essential feature* of the disease process is always ulceration. Inflammation of the mucosa, more or less general, loose stools, mucous and bloody discharges, etc., are usually present, but they are properly to be regarded as incidental or secondary and in no sense distinctive.

2. The characteristic lesions of the disease are always found in the large bowel. The consensus of opinion is that the primary site of invasion is the cecum, whence the infection is carried by natural forces throughout the colon and rectum. Involvement of the distal portion of the ileum is occasionally mentioned in autopsy reports, but clinically this possibility may be, and usually is, ignored.

3. In the majority of cases there are no constitutional symptoms except such as may properly be considered secondary to derangement of the bowel function. Impairment of the general health is a sequel, not an inherent part of the pathologic process.

The disease is, therefore, to be regarded as a local, not a general, systemic disease, and may be tersely defined as a chronic ulcerative affection of the large bowel due to the local action of the *Ameba coli* (*Entameba histolytica*, Schaudinn).

It is more than unfortunate that the term "dysentery" should ever have been applied to this affection, for the reason that it so often leads to confusion and error with respect to the therapeutic management. In the traditional teachings as to the treatment of dysentery, whether acute or chronic, medication by the mouth was uniformly emphasized as all-important and all-sufficient; and, in spite of our present-day enlightenment on the subject, the profession seems strangely reluctant to abandon the old fallacy. The very *name* "dysentery" still, with lamentable frequency, suggests a therapeutic routine which begins with calomel and the salines, includes opiates, astringents and intestinal antiseptics, and ends with bismuth and ipecac. Often there is no other symptom than bloody discharges from the bowel on which to base the diagnosis, and sometimes, sad to relate, there is only the statement of the patient that he has "bloody flux." Happily the modern teaching on this point is clear and emphatic. It is now well understood that the passage of blood from the rectum may be due to a wide variety of causes in no way related to dysentery, and the necessity of a careful local examination in every case is coming to be recognized as a sacred obligation.

It would be interesting, did time permit, to discuss the various views advanced by pathologists as to the real etiologic factor in these cases. By some the primary causative relation of the amebas is variously disputed, the contention being that a sound normal mucosa is proof against invasion by the organism. This view is very probably correct, at least as regards the initial infection. But in the light of pathologic findings it cannot be gainsaid that the nature and chronicity as well as the gravity of the affection are determined by the protozoa.

## DIAGNOSIS

The symptoms of amebic ulceration of the large bowel do not differ from those due to ulceration from other causes. Loose stools, discharges of mucus, pus and blood, tenesmus, abdominal distention, loss of appetite, strength and flesh, progressive anemia, etc., etc., are the phenomena common to all forms of ulceration of the large intestine, but characteristic of none. It remains, then, in every case to institute a thorough local examination both to determine the site and extent of the trouble and to differentiate its exact nature. As heretofore observed, the rectum and sigmoid are practically always involved and with the use of the perfectly simple modern methods of examination, the direct inspection of these parts presents no difficulties. If the lesions be of the amebic type, their appearance is so characteristic as to render them easy of recognition by anyone who has ever before examined a case. The ulcers are variable in size, number and location, irregular in shape, but showing a tendency to extend in the direction of the circular muscular fibers, and covered with white or dirty gray pellicles, the removal of which usually leaves bleeding surfaces. Except in old neglected cases the lesions do not extend deeper than the submucosa, but present undermined edges and not infrequently are connected by submucous tracts. The free margins and proximal surfaces of the rectal valves seem to be favorite sites of invasion.

But while the clinical picture is often—I may say generally—sufficient for a diagnosis, it is strongly advisable that the confirmatory evidence of the microscope be sought in every case. This involves no great outlay of time or trouble and requires no special laboratory training. It is only necessary that the slide be warmed to approximately body temperature and the cover-glass pressed well down on the specimen so as to spread it thinly and uniformly. When present, the amebas with their characteristic movements are always the most conspicuous objects in the field.

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* Read before the Section on Medicine of the Southern Medical Association, New Orleans, Nov. 9-11, 1909.

In order for the microscopic examination to be of any real value in the diagnosis, it is of great importance that the specimen be properly obtained. Neither mucus nor feces are reliable for this purpose. Amebas may be found in them, but their presence is more or less accidental and their absence without diagnostic significance. The only reliable method of obtaining a specimen is by curetting an ulcer under direct vision through the proctoscope, the scraping being transferred to a slide and handled exactly as though it were merely mucus. If the case be one of amebic infection the organisms will rarely fail to appear in such a specimen.

Another aid to diagnosis, but one of only corroborative value, is the leucocyte count. Leucocytosis is usually present and is closely proportionate to the degree of inflammation and the amount of tissue destruction. By this means some knowledge of the patient's power of resistance may be gained and so, in doubtful cases, assistance in settling on the best plan of treatment.

### TREATMENT

The treatment of amebic ulceration may be considered under three heads: general, local and surgical.

*General Treatment.*—This includes (1) rest, (2) diet, (3) hygienic and sanitary measures, and (4) medication by the mouth.

1. Rest is always of great importance. Ordinarily, time will be saved by confining the patient strictly to bed until control of the disease has been established. This may require only a few days or several weeks, depending on the severity of the case, but treatment will be far more promptly effective than if the patient continues on his feet.

2. Diet is also a matter of importance. For a few days it may be well to restrict it to liquids given in small or moderate quantities at frequent intervals. I am convinced, however, that serious error is often committed in this connection. These patients usually come to us weak, emaciated and semistarved from their own efforts at dieting, and one of the urgent indications is to give them nourishment as soon and as rapidly as possible. This can generally be done even in severe cases much earlier than is customary by devoting due care and attention to the subject. In addition to the predigested foods, peptonized milk, junket, etc., it has been my observation that in the majority of cases thoroughly browned toast, juice expressed from fresh beef, and soft-boiled eggs are well-borne. Fruits, sweets, and all but the simplest foods should be withheld.

3. As for hygienic and sanitary measures, the former refer to the patient himself, and include fresh air, sunshine, cheerful surroundings, etc. In obstinate cases a change of climate may be helpful through its effect on the general health. Sanitary measures refer more particularly to the protection of the patient's family and community. The nurse or attendant should be given explicit instructions as to destroying all discharges from the bowel, and also as to the proper cleansing of his hands after waiting on the patient. The infectious agent is probably, in the main, water-borne, and the danger of contaminating the water-supply should be fully explained to all concerned.

4. Medication by the mouth. Referring first to the so-called specific medication, holding, as I do, most firmly that this disease is purely a local affection of the large bowel, I cannot believe that ipecac or any other medicinal agents administered by the mouth will retain sufficient potency after traversing the twenty-odd feet of small intestine to exert a destructive effect on the amebas when these are finally encountered. If this principle were correct, it would seem that the practically unanimous verdict of authorities with reference to the inefficacy of the antiseptic treatment of typhoid fever would, to say the least, be inconsistent. I am aware that the ipecac treatment is lauded by many whose opinions are entitled to all respect. But it is to be remembered that they have not relied on the drug alone. On the contrary, their reports show that dietetic and hygienic measures as well as irrigations have been coincidently employed, and from my point of view these were in reality the effective agents. I would interpose no special objection to the use of ipecac; but I would strongly urge that, in the light of our present knowledge, dependence on it to the exclusion of other measures is both unwise and unwarranted.

Speaking generally, the administration of medicines by the mouth should be resorted to only in the presence of well-defined indications. The routine administration of any remedy is to be condemned. In the beginning and from time to time during the progress of the case benefit may be expected from a mild mercurial purge. Occasionally an opiate will be required, though extreme caution should be exercised on this point. Intestinal antiseptics sometimes seem to be of benefit, acting by inhibiting fermentation and preventing toxemia, rather than by any special germicidal effect on the offending organisms. Among the more reliable agents of this class, salicylate of bismuth, betanaphthol, thymol, resorcin and phenyl salicylate (salol) may be mentioned. The first-named in my experience has proved the most dependable.

*Local Treatment.*—Whatever difference of opinion may exist as to the efficacy of ipecac, there is a striking and complete unanimity with reference to the value of local treatment. There is, however, some disagreement as to the best methods and measures to employ. Basing what follows on personal experience, let us consider the local treatment under two heads: (1) topical applications and (2) irrigations.

1. Undoubtedly in the average case the greatest single factor contributing to the patient's discomfort is the tenesmus. This it is which, in spite of the pain, forces him to seek the commode at short intervals, only to obtain momentary relief by passing a small quantity of blood-stained mucus and pus. The result is that sleep is disturbed, food is refused because it excites peristalsis, and strength is rapidly exhausted. This state of affairs is as unnecessary as it is deplorable. Tenesmus is a rectal symptom, due in this disease to the ulceration and inflammation practically always to be found in this organ. Now, when we reflect that the rectum throughout is as accessible to sight and treatment as the pharynx, or, indeed, as any corresponding area on the surface of the body, the term "unnecessary" as applied to this symptom and its sequels is justified. Topical applications to the diseased parts act like magic. The proctoscope is carefully introduced, the mucosa gently cleansed, and each ulcer touched with a solution of silver nitrate, 60 to 120 grains to the ounce. Before withdrawing the instrument a general application of the same agent, 3 to 5 grains to the ounce, may be made by

means of the atomizer. The treatment should be repeated daily until the symptom is under control; thereafter according to indications. The ulcers heal with remarkable rapidity and the further management of the case is greatly simplified.

2. With the large majority of clinicians, irrigations constitute the main dependence of treatment. A wide diversity of opinion exists as to the most effective solution, one man advocating one kind, another another. Personally, I believe that the effectiveness of irrigations depends rather on the mechanical cleansing action of the solution than on any medicinal agent it may contain. And I believe also that failure to cure every patient by this method of treatment is due alone to inability to reach all infected portions of the bowel with the solution.

The intolerance of the rectum, due to the local inflammation and tenesmus, renders it impossible in many cases, even with the aid of posture, to force the fluid into the higher portions of the intestine. The only means by which this difficulty can be overcome is the introduction of the colon tube. In spite of emphatic claims to the contrary, this is a most difficult feat as ordinarily attempted, the tube curling on itself in the rectum, thus leading to a misapprehension as to the height it has reached. By placing the patient in the [illegible] or inverted posture and passing the six-inch [illegible]ope the manipulation is rendered both easy and [illegible] the tube being introduced through the procto-[illegible]ll into the sigmoid and the latter then with-[illegible]. At first the irrigations should be used daily or [illegible]wice a day, not less than half a gallon of the solution [illegible]ing carried into the bowel before any portion of it is [illegible] to return. Later, as the patient improves, every [illegible]y or twice a week will be often enough, but the [illegible] should not be entirely discontinued for some [illegible] least after the cure seems complete.

[illegible] medicinal agents employed in the solutions include boric acid, quinin, ichthyol, common salt, hydrastis, formalin, etc. Cold water alone has some advocates. My preference is the formalin in boric-acid solution, beginning with 1 dram to the half-gallon and [illegible]ing the strength as tolerance is acquired.

[illegible] S. Hanes[1] calls attention to the wonderful cura-[illegible] of ordinary coal-oil when used for irrigation, [illegible] that it is healing to the inflamed mucosa, [illegible] the amebas and absolutely non-toxic in [illegible]

[illegible] it is not impossible to irrigate the colon [illegible] other tube than the ordinary two-[illegible] provided the rectum is first given [illegible] the proper posture of the patient [illegible]

[illegible]—Resort to surgery in the man-[illegible] warranted for one purpose [illegible] for irrigating the [illegible] reason this is impos-[illegible] is proved to exist at [illegible] from below. [illegible] is only a limited [illegible]

[illegible] in which [illegible] irrigating [illegible] [illegible]

When by reason of anatomic abnormality or pathologic change the appendix is found to be unsuited for the purpose intended, resort may be had to cecostomy, which, though not so simple in technic, is neither difficult nor dangerous and answers every purpose.

The solutions for irrigating are the same as those mentioned for use per rectum. It is worthy of remark, however, that benefit apparently follows the use of plain water as promptly as the medicated solutions, seeming to prove that the effect depends rather on the mechanical action of the fluid than on its antiseptic action.

If I were asked to specify the indications for appendicostomy, I should name just two: (1) failure to relieve by non-surgical methods faithfully and intelligently carried out; (2) recurrence of the attacks at such frequent intervals as to demonstrate that certain foci of infection exist in higher portions of the intestine than can be reached by irrigations per rectum. But I should add an earnest plea that the operation be not reserved for moribund patients. Performed under proper conditions and by competent operators, it should give no larger mortality than the interval operation for appendicitis, which at the present time is practically *nil*. On the other hand, the disease itself is by no means free from danger to life, the single complication of amebic abscess of the liver and other organs causing a far higher mortality rate than that of appendicostomy.

Is appendicostomy a curative procedure? Obviously not *per se*. But that it offers a means—in certain cases the only available means—of cure is the positive verdict of many competent and credible observers. Of course, the irrigations should be kept up for a sufficient length of time to effect a cure—not less than six months or, better, twelve; and, of course, a cure following the operation does not preclude the possibility of a reinfection.

Jackson Building.

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# THE EARLY HISTORY OF ABDOMINAL SURGERY IN AMERICA*

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The history of abdominal operations forms one of the most interesting chapters of surgery. It is not the purpose of this paper to write it in its entirety, since, treated in detail, it would fill a large volume. It is rather the desire to give a few pen-pictures, chiefly of a personal type, of the experiences of men whom I have known and to show, if I may, the earnest cooperation of a considerable group of America's most distinguished surgeons.

As it is still the custom in some parts of the south, speaking of events transpiring a generation ago, to group them chronologically as happening before or since the war, so we may wisely group the early data into the former period. America is justly credited with the initial step in this new departure of surgery and Ephraim McDowell of Kentucky is properly called the father of ovariotomy. Although this goes back to 1809, it teaches that the world then was not so very large, and the world of thought even smaller, since Dr. McDowell was a student in Edinburgh and carried with him to his then backwoods home the wise training which he received in what was, for a long time, the first center of European medical knowledge and education. In this later day, when specialism thrives in the great centers of population, we often look in vain among the specialists to find the splendid all-around educated men who can compare favorably with the judicial-minded, self-centered, better type of country practitioners. Such was Dr. McDowell, who necessarily had to do his own thinking; and it is the universal verdict that he did it wisely and well. Such also were the distinguished coterie of his followers, some of whom I had the honor to count as my friends, although they were in their full maturity while I was yet a junior. Thus I knew and loved the Atlees, splendid specimens of manhood, of masterly intellect blended with a gracious sweetness and kindness as tender as that of a woman. Gilman Kimball of Lowell, Horatio R. Storer of Boston, and the immortal Marion Sims and Addison Emmet of New York were also among my early masters and life-long friends.

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[1] [illegible]

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

*Washington L. Atlee* was born in Lancaster, Pa., in 1808 and graduated from Jefferson Medical College in 1829. In an address to the alumni of that college Professor Gross described him when a student as tall, erect and handsome in person, neat in his appearance and possessed with an amount of industry, intelligence and ambition which foreshadowed his future success. Young as he was, he was constantly in search of new truths and devoted to his profession. In a pamphlet published by him entitled "Retrospect of the Struggles and Triumph of Ovariotomy in Philadelphia" he states:

> On the 29th of June, 1843, my brother performed ovariotomy. This was the first time that both ovaries were removed. Being associated with him in the case, I commenced studying the literature of the operation and soon realized the bold and important step taken thirty-four years before by McDowell, of Kentucky.

Dr. Atlee operated twice in 1844. The first case, that of a woman of 61 years, proved fatal; the second patient recovered. His third operation, the first case in Philadelphia, was performed in March, 1849. He says, however:

> On moving to Philadelphia I found I had roused up a hornet's nest. Ovariotomy was everywhere decried. It was denounced by the general profession, in the medical societies, in all the medical colleges and even by the majority of my own colleagues. I was misrepresented before the medical public and was pointed out as a dangerous man, even as a murderer. The opposition went so far that a celebrated professor, a popular teacher and a captivating writer, in his public lectures invoked the law to arrest me in the performance of this operation.

The name of Atlee stands without a rival in connection with uterine fibroids. His operations were so heroic that no one for a long time dared to imitate him.

He died in September, 1878.

Dr. John L. Atlee shared the honors with his brother. In the discussion of the better methods of treating the pedicle of ovarian tumors (American Medical Association, June, 1876) he advocated the use of the clamp when possible, stating:

> I have used the ligature; I have used the hot iron; I have used the needle through the pedicle and walls of the abdomen; I have employed every method of treating the pedicle except pocketing it, and I prefer the clamp. I think the advantage of the clamp consists chiefly in keeping dead tissues out of the abdominal cavity. It fixes the uterus in position. Owing to the relaxed abdominal wall it is not a drag on the pedicle. . . .
>
> I have now operated over 340 times; over 200 times with the clamp with 79 per cent. recoveries. . . .
>
> Dr. Sims objects to the clamp, since it may produce a sloughing of the pedicle and give rise to septicemia; this I have never seen. The pedicle recedes and the wound heals by granulation.

Dr. A. Dunlap of Ohio, a man whom, for his many excellent qualities, I learned to love, and a great admirer of Dr. McDowell, took exception to the use of the clamp, preferring small silk ligatures. He said:

> The majority of the patients I have operated on would not have borne to have had the clamp applied putting the pedicle on stretch, since that would have endangered the patient on account of inflammatory action.

He states that he has had 80 per cent. of recoveries with which he has not been satisfied. He obscurely recognized infection and stated that some of his most favorable-looking cases were fatal, but not because of disturbance of the peritoneum. He used drainage-tubes in his most serious cases. He pointed out the increased mortality in patients operated on in large general hospitals and advocated careful exclusion in private wards. He gave the following reason for his objection to the drainage-tube:

> The air will pass into the cavity of the peritoneum as readily as the fluid will pass out. Every motion of the diaphragm and abdominal muscles acts like a suction-pump and will draw air into the cavity of the peritoneum alternately with the outflow of the fluid. Blood and bloody serum which without the contact with air might have been safely absorbed, will be more likely to putrefy and thus increase the danger to the patient. In cases, however, in which it has already occurred, the insertion of a drainage-tube is useful in aiding the discharge of the pus and putrescent fluids.

Closely associated with ovariotomy is hysterectomy for the removal of large uterine myomata. Mr. Charles Clay of Manchester, England, is accredited with the first operation deliberately undertaken for this purpose. The patient died two hours afterward from hemorrhage. This was in August, 1843. In November of the same year Mr. Heath operated, the patient's death, attributed to shock, probably from hemorrhage, taking place seventeen hours afterward. The cause of death in both cases was considered to be the division of the pedicle by the knife rather than by écraseur. Mr. Clay's second case was in January, 1844. Death, caused by the nurse letting the patient fall on the floor, took place thirteen days after the operation. The first successful case was that of a patient of Dr. L. P. Burnham of Lowell, Mass., operated on in June, 1853. After describing the operation in detail, Dr. Burnham said:

> I then passed a strong double ligature through the neck of the uterus and tied on each side; then, to make doubly sure against hemorrhage, a ligature was placed around the whole neck. No hemorrhage followed. After the removal of the uterus an examination of both ovaries revealed a diseased condition and they were accordingly extirpated. The abdominal cavity was then carefully sponged and all blood clots removed.

The wound was treated with cold water dressings. Severe inflammation followed with free suppuration. The last ligature came away the fifth week. In all, Dr. Burnham performed fifteen hysterectomies for fibroid tumors with three recoveries. One death was due to hemorrhage. In the light of modern knowledge death in the other cases was due probably to infection.

Dr. E. R. Peasley of New York operated in 1853, death occurring on the eighth day from intestinal obstruction—the intestine protruding between the abdominal sutures.

More than passing notice is due one of my first teachers, Dr. Horatio R. Storer of Boston. Personally I am under a debt of gratitude to Dr. Storer which can never be paid. We loved him despite, if not for, the enemies that he made. His equally distinguished father had carefully supervised his education. A graduate of Harvard, a student at law, in due course a doctor of medicine and for four years a sharer in the home and training of the immortal Simpson of Edinburgh. As a labor of love for such instruction, he and the late Dr. Priestley of London edited the works of Dr. Simpson in two volumes. Dr. Storer returned to Boston and was appointed an instructor on the diseases of women in the Harvard Medical School. He had a most enthusiastic following when, as an undergraduate, I first met him. He soon became one of the most popular practitioners in the city of Boston and was said to have had the largest income of any member of the profession in New England. He was indefatigable in his work. He founded the Gynecological Society of Boston, the first special society devoted to the diseases of women in the world; and for seven years he published *the Journal of the Gynecological Society of Boston*. The first successful case on record undertaken for the cure of umbilical hernia was one of his early operations. In September, 1865, he successfully performed hysterectomy; and this was the twenty-fourth case of the operation placed on record and the fourth successful case operated on in America. In 1866 Dr. Storer contributed an elaborate paper on the treatment of the pedicle of fibroid tumors and strongly advocated the use of the clamp. He devised an instrument which he called his clamp-shield, an instrument capable of producing enormous compression and hinged on a pivot rotating so as to allow closure at any angle. I consider it the best, as well as last contribution for the external treatment of the pedicle by compression.

Dr. Storer made a further contribution, and in my judgment a more valuable one, which he called "pocketing the pedicle." Briefly, it was to suture the stump of the pedicle through and through with the deeper layer of the abdominal wall and thus keep under easy inspection the divided parts. By it he was enabled, in the non-infected cases, to close off the abdominal wall and protect the peritoneal cavity. This was, of course, a step in the direction of aseptic surgery, although taken blindly. There is no doubt that Dr. Storer was the "best-hated" member of the profession in Massachusetts. A long and dangerous illness removed him from the active arena and years were spent in Europe in quest of health, unfortunately never restored fully. He gave brilliant promise of being the leader of gynecology in America, notwithstanding the vituperative abuse unsparingly showered on him by men who should have known better. A generous share of this attention was bestowed on me as his ardent defender. I have somewhere a letter of his, written at the time, containing a touching appeal to forget him and his service to suffering humanity lest it work my ruin. He is a man of strong magnetic power, quick of thought and action, fluent of speech, equally ready to attack his enemies and to defend himself; and there are yet many who hold his service in grateful remembrance.

Dr. Gilman Kimball of Lowell, Mass., continued active until late in life. I saw him operate a number of times when past 70 with his usual skill and ability. I attended him in his last illness; he died when past 80 of hemorrhage from the stomach. He was a man to command attention in any assembly, although modest in the extreme. His abdominal operations totaled about 300. He removed the uterus in fourteen cases with six recoveries.

One of the earliest hysterectomies under the antiseptic method which I find recorded was by Dr. T. G. Thomas of New York, who used his clamp and passed four knitting-needles at right angles through the pedicle to prevent slipping. Although Dr. Thomas called this the antiseptic method, in his report of the case, it may be questioned if infection did not follow, since he states that "the portion of the uterus in and below the clamp entirely sloughed out; the cavity which was left healing by granulations, so that no trace of the organ remained."

About this period Dr. Thomas invited me to New York to see him remove an abdominal tumor and pass judgment on his technic. The tumor proved to be a large multiple cystoma without adhesions and the operation, simple as it was, should have been a brilliant one. All the paraphernalia of the time was in requisition. Two large steam atomizers played constantly on the field of operation. The room was very hot and close. The small pedicle was ligated and dropped within the abdominal cavity. All went to the seeming approval of the select group of distinguished guests. Coming from the operation, Dr. Thomas asked my criticism of the operation, to which I replied asking if he sought compliment or the detection of faulty technic. He answered he hoped the latter. Then I called his attention to the fact that he had taken an unsterilized towel and wiped the perspiration from his face and hands during the operation. The patient died on the third day from infection; and Dr. Cleveland, his then assistant, told me that special preparations had been made in order to show me a faultless technic.

Of the distinguished men who founded the Woman's Hospital of New York and who laid the foundation for abdominal surgery Sims, Emmet and Thomas stand out in bold relief. No men in America have had such splendid following. Sims was the magnetic, dashing Southern leader. Thomas and Emmet were his distinguished lieutenants, equally honored and beloved. The work of such masters is stamped with immortality.

Even the devastating war, which, directly or indirectly, brought death, calamity and sorrow into every household of our great country, had a fruitage of good. One of these benefits was the resultant better training of the younger generation of medical men in the field and camp. Many of the young army surgeons saw more clearly the need of higher education in their profession and were led to seek postgraduate training, then to be obtained almost exclusively in Europe. The surgical history of the Civil War was written by Dr. George A. Otis, formerly of Springfield, Mass., in a work perhaps unequaled by any American contributor to our literature. It is a mine of information which may be worked advantageously by any seeker of surgical knowledge; and I commend its careful study to those who would be masters of our art. I had the good fortune to begin my study of medicine with Dr. Otis as my preceptor and again to meet him when we were both surgeons in the Union army. He was a Virginian by birth. I sought his instruction on the recommendation of one of the first practitioners, who stated that Dr. Otis was probably the best educated physician in western Massachusetts. He had for a long time been a special student in Paris; for six years a medical editor in Richmond, Va., and later made Springfield, Mass., his home. He was a devout Catholic, fond of music and leader of the choir in his great church and an earnest union man. As a man of wealth he lived generously, his fine estate being nearly opposite the great Springfield arsenal. He appreciated the political situation far more accurately than most men of the north; and when, under the direction of Secretary Floyd, the arsenal was depleted of its hundred thousand modern rifles to stock the storehouses in the southern states, he pointed one day to the long line of teams with their precious freight and said to me, "You men of the North have little conception of the volcano over which you are living." He remained in the service of the United States until near his death, which occurred in Washington. I think he was never quite so happy as when preparing some interesting specimen; and our army museum is the monument of his skill and industry. His voice was soft and pleasing; his southern accent modified by his long Parisian training. He was small in stature, quick in action, and at once impressed himself on those about him as a leader. He collected the records of 3,717 cases of penetrating wounds of the abdomen during the war of the rebellion and gives the ratio of mortality at 87.2 per cent. In 2,559 cases in which visceral injury had taken place 92.9 per cent. died.

In the *Transactions of the American Medical Association* for 1881 my late and beloved friend, Dr. Hunter McGuire, another distinguished Virginian, discussed gun-shot wounds of the peritoneum. He pertinently inquires:

> Why are all penetrating wounds of the abdomen, with or without visceral injury, so fatal? Why, when the patient has escaped shock, exhaustion and hemorrhage should peritonitis kill within forty-eight hours? I believe the mortality is often due to some kind of blood poisoning connected with peritonitis just as often we see septicemia associated with peritonitis under other circumstances, notably after parturition and ovariotomy.

He said:

> The wound in the abdominal wall should be enlarged or the linea alba opened sufficiently so that the injured parts could be thoroughly examined. Hemorrhage should be arrested. If intestinal wounds exist, they should be closed with animal sutures, first trimming their edges if lacerated and ragged. Blood and all extraneous matter should be carefully removed and then provision made for drainage.

He stated that these were the measures which he advocated in November, 1873, before the Virginia Medical Society. It must be recalled that at that date few accepted Mr. Lister's then novel views of infection, and it remained for Parks and Senn to enlarge on his teachings and engraft the new discovery on Dr. McGuire's urgent advocacy of peritoneal drainage. These three men were active co-workers until so recent a period that they are known to most of our present members. Perhaps less is known, however, of Dr. McGuire, who was a representative of the best type of Virginian. He was the medical director on the staff of General Stonewall Jackson and amputated his arm soon after the battle in which he was wounded. Four days later he died; his death being attributed to pneumonia due to the free use of cold water, but Dr. McGuire later told me that, interpreted in the light of modern knowledge, it was undoubtedly due to wound-infection.

Following the Civil War I was for some years an assistant at the Harvard Medical School and gladly sought the opportunity for further instruction by spending 1869 and 1870 in Europe, for the most part in Berlin. I was well trained in anatomy and I thought I knew surgery. Besides I spent a considerable portion of my time as a pupil of the immortal Virchow in the study of pathology. I first met Dr. J. Marion Sims in Paris only a little before the outbreak of the Franco-German war, in which he distinguished himself by inaugurating in the French army the American ambulance service as it had been developed during our Civil War. Ardent in his southern temperament, he determined that he would not live under the flag of our union. On this account he voluntarily expatriated himself and when abroad wrote his little volume on gynecology which almost at once gave him fame through Europe. Although not the first to operate for biliary obstruction, he was the first American to do the operation which was performed abroad, and, although he never repeated it, he elaborated and published the details of the technic much as used to-day.

In London I was the student of Paget, Ericson and Sir Spencer Wells with much profit. Mr. Paget asked me one day if I was familiar with the administration of ether, saying that he had heard much of its use in Boston, and, if so, he would like to have me etherize a patient for him. He stated that there had recently been six deaths from chloroform in the public service of London, and that he sought a safer anesthetic. I was introduced by him to the several hundred students occupying the amphitheater, while a small, nervous woman was brought in for operation. By good fortune the patient was soon asleep without a struggle, and Mr. Paget stated that, in so far as he knew, it was the first time that ether had been used as an anesthetic in London.

Only a very little later Sir James Simpson, who first used chloroform in surgery and stoutly declared that the only danger from its administration lay in the incompetency of the anesthetizer, had a patient die on the table before the operation was begun. Although a man of enormous physical vigor, he had greatly overtaxed himself and in his weakened condition the shock resulting from this death caused him to take to his bed and four days later he died from angina pectoris. The surgical profession of all Europe mourned his loss as that of a brother, and when, soon after, I visited his grave, the worn turf for a considerable space about his burial-place gave evidence of the crowds of both rich and poor who had sought to honor his memory.

Through the kindness of Dr. Storer it had been arranged that I should spend the summer under this great man. In the fulfilment of my plan I determined to remain in Edinburgh and thought to profit under another of Scotland's great teachers, Professor Syme. Sadly a few days later I attended his funeral. Chief among the mourners a medium-sized man, accompanied by a tall lady, was pointed out to me. It was Mr. Joseph Lister, who had married Professor Syme's daughter and through his influence had come to Edinburgh to be his successor in practice. My informant, a young local physician, said he was full of strange notions and that nobody in Edinburgh wanted him.

A few days later I presented my card and was received most cordially. I shall never forget the morning. His beds were on the first floor of the old infirmary, which was none too clean or attractive. He showed me a number of his patients; among others two or three with resections of the elbow-joint. The little patients were almost without pain or suffering, with only a moderate amount of serous discharge. Convinced by what I saw before the morning ended, I asked to be his special student for the summer; and day by day I learned more and more to admire and wonder at the miracles of modern surgery that I saw. I had heard much of Scotch character and had witnessed what I had deemed the extreme of ill temper exhibited by members of the profession in Boston, but that to which Lister was subjected exceeded all. Men well known in the world of science passed and repassed Mr. Lister in their rounds of daily duty without a nod of recognition, and this was by no means the limit of disapproval shown.

As Virchow in the former year had supervised the selection of my pathologic equipment, so Mr. Lister kindly aided me in obtaining a generous supply of his surgical material. The large rolls of his carbolic-lac-plaster puzzled our revenue officers in determining under what schedule they should be rated for duty. I was the first American pupil of the then almost unknown Mr. Lister, but in the enthusiasm of youth I thought it an easy matter to convert my brethren, forgetting for the moment that the master himself was the target of the most bitter criticism and that his methods were decried as unscientific and absurd. When I sought to make a practical demonstration in the hospitals of Boston I was frigidly told that when my services were desired I should be notified. Stung to the quick by the cool, bitter criticisms of many whom I had considered friends in the profession, refused a hearing on the subject before the medical societies, I, unwisely, as I now think, refused a professorship in Chicago and determined that Boston should yet recognize the value of the teachings of my master and honor me as his pupil. I opened a private hospital and, regardless of fee, welcomed whoever would come to me. Of course, little by little the results of my operative procedures became known. In a complacent way it was stated that I was lucky and later that I picked my cases. In 1876 I received a royal welcome in the American Medical Association when my beloved Dr. Sims was president.

I established a laboratory for bacteriologic and pathologic research, having the good fortune to secure the able assistance of the late Dr. A. P. Holt and Dr. Samuel Nelson of Cambridge, Mass. This work was continued fifteen years, the chief problem under consideration being the rôle of bacteria in their relation to surgery, then called surgical pathology. The tender sensibilities of women of doubtful age caused complaint of our work and the society of the long name became actively interested in our little colonies of rabbits and guinea-pigs kept in my large garden for experimental research. Thus from year to year, besides communications to many of the journals, I brought the fruitage of our work to the American Medical Association, until now each year since 1876 I have been in unbroken attendance and yearly have contributed the results of my studies. I am sorry to confess that the new teaching made slow progress in its acceptance, and not until after it had met German approval did the leading surgeons of Boston consider favorably its adoption.

I offer this brief chapter of personal history, since, in a way said to be peculiar to Boston, it is now claimed for one of its leading hospitals that antiseptic surgery was there first practiced and its methods introduced by its surgeons into America. Although such experiences are intensely bitter, they may be welcomed, since the better qualities and the higher attainment are the fruitage. At about this period Dr. Sternberg began his bacteriologic research work, and for years we were the pioneers in this field of knowledge so revolutionary in its practical teaching. We first knew each other through our publications. His wise superiors at Washington thought that this young medical officer was wasting his time in such foolish study and he was ordered to service upon an island in the Pacific. Replying to a letter of indignation on my part advising his resignation, he wrote, "Such experiences make the discipline of life. It is a long road that has no turn." The bestowal of the first honors that the government can confer on a medical officer shows that he was far wiser than I, although in a measure I tried to profit by his philosophic advice.

Little by little the unknown factors of the problem of infection and how to avoid it were slowly mastered, until now we look in wonderment on the revolutionary results of its teaching. Although general surgery has profited as never before, the battle royal of aseptic surgery was fought and won within the realm of the abdominal cavity. It would be almost invidious to single out from the considerable army of modern contributors the names of men still living and comparatively young to whom our great profession owe a debt of gratitude. A coming generation will do them ample honor. As the fruitage of my own work in research, there came almost by inference certain practical deductions.

Although in other publications I have shown that the buried animal ligature is justly accredited to an early generation of American surgeons, its modern use and the reasons of its safe application are the triumph of Lister's genius, who knew nothing of this work so well done by Dr. Jamieson, whose experimental demonstrations were published in 1827. In the days of my pupilage with Mr. Lister, although he ligated arteries with seeming impunity, cutting short the catgut ligature and closing the wound aseptically, it had never occurred to him to bury sutures. He often called our attention to the interrupted stitch taken through and through, showing that active proliferation under aseptic conditions was not provocative of pus, but that the most active cell change took place in the deeper layer of the skin, where, if permitted to remain sufficiently long, the suture material separated, leaving the deeper portion to be absorbed. To me it seemed a simple corollary that the entire stitch could be buried and that like parts in well-vitalized tissues could be rejoined.

The first practical outcome of this reasoning was in 1870 in the cure of hernia, the cases being published in 1871. The keynote of the reasoning, the reconstruction of the parts to their normal anatomic condition, simple as it seemed, has proved the solution of the "thousand-year-old problem of surgery" and is in daily practice in all parts of the civilized world. It followed that every variety of hernia could be easily and simply cured. The causes of ventral hernia after operative interference were easily shown to be a maladjustment of the like structures of the abdominal wall, necessarily incident to the joining of the parts by the through-and-through interrupted stitch. This was easily obviated by the careful reunion of like structures by layers of continuous absorbable sutures. Such was the outcome that in the last 2,000 cases of laparotomy with primary union, in which the sundered structures were rejoined in layers with buried kangaroo tendon continuous sutures, I am not aware of a single case of hernia following operation.

The greater victories, however, have been won within the abdominal cavity. Very naturally the largest factor of success in the treatment of pathologic conditions here found result in an earlier recognition and surgical intervention. Ovarian and uterine tumors are rarely permitted to develop into the conditions in which they were commonly found by the earlier operators: a most important factor when comparing the statistical tables that is often overlooked. Tumors without adhesions leave the peritoneum as a rule uninjured. The intestines are disturbed only by displacement. Modern technic permits an easy inspection of the pelvic cavity and bleeding vessels are readily secured. The vexed question of the pedicle, so long a stumbling-block to our fathers, is easily solved. It early appeared to me to be very important to cover in, so far as possible, all excised and denuded surfaces with healthy peritoneum, first the pedicle of the ovarian growth; and in 1880 I first put in practice the infraperitoneal treatment of the cervical pedicle in the removal of myomatous growths.

"In 1880, assisted by my distinguished teacher, Dr. Gilman Kimball, of Lowell, I removed the uterus for the first time, for a large multiple myoma, where I adopted a modification of Schroeder's method, embodying all that is at present considered essential. Commencing on one side, I sutured the broad ligament with a double continuous tendon suture, extended so as to include the cervix. The broad ligaments were divided, the peritoneum reflected from either side, the stump cut down conically and covered over by an intrafolding of the peritoneum with a continuous sero-serous animal suture. The suture thus taken intrafolded the peritoneum evenly, while it was itself buried beneath it, leaving no line of infraction of the pelvic peritoneum. Thus the stump, dropped within the abdomen, was itself extraperitoneal. This method seemed to me so important an improvement on that of Schroeder that I reported it in a paper read at the International Medical Congress[1] held in London in 1881. I incorporated it in further detail in my address on "Fibroid Tumors of the Uterus" as president of the Section on Obstetrics and Diseases of Women of the American Medical Association in 1882. In 1887 I reported still further my experiences with this method and emphasized its value. I also pointed out the importance of dealing with the larger number of uterine myomata, which developed in such a way as to have really no pedicle. My last special contribution upon this subject was a paper entitled "The Surgical Treatment of Non-Pedunculated Tumors," read at the American Medical Association in May, 1890. Up to that period, in common with nearly every other abdominal surgeon, I had considered hemorrhage the greatest of all dangers; and in order to lessen this, I devised and used the so-called rubber-dam, a thin sheet of rubber with a central reinforced opening which was stretched over the tumor and crowded down as far as possible to the base, around which was placed a constricting rubber ligature. The suggestion of its use occurred to me from noting the admirable service rendered the dentist by the constricting rubber placed around the root of a carious tooth. It served the double purpose of controlling hemorrhage and keeping the abdominal cavity entirely free from surgical contact. This was applicable, however, only to moveable tumors with a more or less distinct pedicle.

An aseptic operation thus carefully performed leaves a comparatively uninjured peritoneal cavity without points for subsequent adhesion, and convalescence speedily follows on the restoration of intestinal function.

The removal of the appendix, now a daily operation, is practically without danger when the operation is performed before the appendix ruptures and peritonitis sets in. In my entire series of several hundred cases I have not seen a patient seemingly approach the danger-line. It happens that I was the first operator in the world to remove the appendix in the so-called periods between the attacks. The credit of this interference was due to the insistence of the patient, a wise physician, who had concluded that this was the period of special safety. So important was the operation considered then that a number of leading surgeons came over from New York to witness it. This was in November, 1886.

The surgery of the biliary tract is so recent that it requires only reference. In 1880 Lawson Tait enthusiastically told me of his long series of operations, then numbering nearly forty. I have already referred to the case of Dr. Sims, and most know that Dr. Dobs of Indiana was the first surgeon in the world to operate successfully on the gall bladder. This was due, however, to accident rather than design, since the gall bladder was so distended with fluid that it was believed to be an ovarian cyst. I happen to be the first surgeon in America to operate successfully for biliary obstruction, the patient being a physician, aged about 70. This was in July, 1887. In October, 1889, I removed a gallstone from the common bile duct (the patient visited me only recently), and this proved to be the first patient operated on in the world for the removal of a stone lodged in the common duct. Now these operations, only so little ago declared by the leading authorities beyond the realm of surgery, are of such frequent occurrence that they cause little comment. Operation on the intestinal tract, on the kidney, on the bladder within the abdominal cavity, and even on the spleen and liver are by no means of rare occurrence.

The drainage of wounds, so long considered absolutely necessary, is the decided exception and should be almost never resorted to in aseptic conditions.

Thus closes a brief summary of the most brilliant achievements of modern surgery; and the contribution of the most important factors has been the work of American surgeons. There is good reason for believing that this was due in large degree to the openmindedness of her students. In the early part of this generation Germany claimed the rôle of honor in her teaching and would learn little from Great Britain and less from France. Great Britain, smarting under the loss of her recent prestige, refused to accept the teaching of either Germany or France; and France, in turn, which had claimed the banner for a century, would profit nothing from Germany or England. The American student without prejudice sought profit from all and earned the award so generously given by Virchow in his introductory address as President of the International Medical Congress in Berlin in 1890 when he said "America leads the world in surgery."

180 Commonwealth Avenue.

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[1] Marcy, Henry O.: The Surgical Treatment of Uterine Myomata, Tr. Internat. Med. Cong., 1881, ii, 233.

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# LUETIC LYMPHOMA IN LATE SYPHILIS *

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AND
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Gigantic steadily advancing enlargement of the lymphatic nodules in the neck of an otherwise healthy adult, not accounted for by any pyogenic or epitheliomatous focus in the tonsils or elsewhere, leads one almost inevitably to the diagnosis of lymphosarcoma, with the desperate alternative of an almost hopeless operation. In such an enlargement, tuberculosis also must be considered. Some of these cases are, however, due to syphilis and are amenable to vigorous antisyphilitic treatment, of which the following is an instance:

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* Read before the California Academy of Medicine, Nov. 23, 1909.

*Patient.*—On Jan. 6, 1909, a man, aged 36, came into the office presenting a marked swelling in the right side of the neck. His family history was negative. He had acquired a venereal sore in 1902 which cleared up, as he remembered, without other symptoms. For the past four years he had had numerous boils and carbuncles on the back of the neck.

*Examination.*—The patient was a large man, in robust health, and said, as he came in, that he was suffering from the effect of boils, and that he had a swelled neck. There was indeed a large swelling of the right side of the neck that bulged out over the collar. The greater part of this swelling was along the posterior border of the right sternomastoid muscle. The hollows under the ear and back of the neck were obliterated, and the skin was tense. On removing the collar the swelling seemed to fill the whole of the right side of the neck. The entire mass was firm, and at its posterior border there was an extension of the induration that was so hard as to feel woody. There was a distinct impression of tense fluctuation in the central portion of the main mass, and the skin overlying this was congested. An area larger than the mass was completely denuded of hair, owing to previous treatment with $x$-rays. There was an almond-sized, hard lymphatic nodule in the right side of the suprasternal notch, and a number of smaller palpable hard nodules in both the right anterior and posterior cervical chains. The patient felt fulness in the neck, with a consciousness of some discomfort deep within the throat.

*Diagnosis.*—The first disease thought of was lymphosarcoma, as the affection appeared in a classic situation for this tumor, and evidently was extending rapidly downward along the lymphatic chain. The decided hardness of one of the tumors, and the lack of mobility in this one, and also in the main mass, strengthened this impression. Pyogenic processes in the mouth or tonsils would not produce such large tumors, and, besides, the posterior chain of glands would not be involved to such an extent. The patient did not give at all the impression of being either scrofulous or tuberculous, and the process was too rapid for either. There was no enlargement of the liver or of the attainable lymphatic nodules of other regions of the body, and the blood had been carefully examined previous to his coming to us with negative findings, so that the enlargement was evidently not due to leukemia. The facts that the man gave practically a negative history of lues, and that his memory was not made keener by the suggestion of the necessity of an extensive operation, were not considered strong enough to exclude the possibility of a former spirochetal infection. A test for a Wassermann reaction was not made. A positive complement fixation might have been of some assistance. The diagnosis therefore narrowed down to either late enlargement of the lymph nodes in syphilis or to lymphosarcoma, with the great probability of its being the latter.

*Treatment.*—The very bad prognosis incident to operative procedures in such cases induced us, however, even at the risk of losing time, to try first a vigorous antisyphilitic treatment. The patient was given the neutral salicylate of mercury, 10 per cent. solution in petrolatum liquidum by intramuscular injection into the buttocks. A dose of seventeen minims of the solution was injected the first day, and twenty minims thereafter at intervals of eight days. Ten such injections were given. Potassium iodid in ten-drop doses of the saturated solution was ordered three times a day at the beginning, increased to fifteen drops on January 8, and to twenty drops on January 14, and continued at that from then on. Three days after the injection the swelling in the neck felt softer. On January 14 the enlargement was much reduced. On January 22 there was still greater reduction, and there was a more natural sensation on palpation. There was a constant decrease in size and hardness up to March 12, when there was no enlargement by palpation, and no enlarged lymph-nodes were demonstrable. Compared with the left, the right side of the neck was but slightly more prominent. On April 26 the neck was apparently normal. The entire treatment lasted about ten weeks.

A later point in the history, and a most interesting feature of the case, came to our knowledge through an answer to a letter written to the dermatologist who had first treated the patient. He told us that the man did have a faint roseola following a sore in 1902, and was treated internally for a long time. He also said that he had been, as we were, much puzzled over the condition of the man's neck. The blood had been examined several times with negative findings. Mercury in pill form and iodids had been given for a while after the appearance of the glandular enlargement in the neck without much benefit. Interesting to relate, the use of the $x$-rays was followed by a reduction in the size of the glands. Later the patient took rather large doses of the syrup of the iodid of iron.

In a case of enlargement of the superficial lymphatic nodules, not dependent on recent syphilis or any of the acute fevers, we have to consider:

1. Actinomycosis.
2. Blastomycosis.
3. Granuloma coccidioides.
4. Leucemia.
5. Endothelioma.
6. Pyogenic infection.
7. Carcinoma.
8. Tuberculosis.
9. Lymphosarcoma (Hodgkin's disease).
10. Syphilis.

In regard to actinomycosis, blastomycosis and granuloma coccidioides, the difficulties in diagnosis would be greatly lessened by concomitant symptoms, and could be made positive by the microscope and by culture growths. The blood-picture, including an enlarged spleen, would assist in a diagnosis of leucemia. Endothelioma is generally undiagnosed without a microscopic section. It is a single tumor; it may fluctuate and have grumous contents. As to pyogenic infection, it is our experience that enlarged lymph-nodes due to such a cause are dependent on an active and not an attenuated virus, and are associated with some quite recent or concomitant focus. This last is particularly interesting in its bearing on the present case, as the man had had furuncles some months previously, and the possibility of his condition being due to the locking up of an attenuated virus in the lymph-glands of the neck was suggested by the dermatologist who formerly had charge of the patient.

Primary carcinoma of the lymph-glands is exceedingly rare, and most cases supposed to be of that character have proved to be endothelioma. Little difficulty would arise if a carcinoma which drained into the affected glands was present.

Consideration of the possibility of metastasis from more remote locations might be puzzling, however, as in an interesting case reported by Dr. H. Brouser,[1] in which hematuria occurred four years subsequent to a syphilitic infection. The hematuria lasted three weeks and recurred several times, lasting two or three days each time. Specific treatment had not influenced the condition. Two years later a cystoscopic examination showed a cherry-stone-sized papillomatous structure at the right ureteral opening, and recurrent hematuria was frequent. A year later the patient presented an oval, large, hen-egg-sized solid tumor at the posterior border of the right sternomastoid muscle, not sharply limited, and not so closely adherent at the base as to the skin. Fluctuation and redness were present, but other symptoms of inflammation were absent. Brouser stated that the appearance was in favor of a gumma, but the situation spoke more for a lymphosarcoma, and there was the possibility of its being a metastasis from the bladder condition. Specific treatment cleared up the swelling in a few weeks, and the bladder condition remained unchanged until two years later when it cleared spontaneously.

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[1] Brouser, H.: Berl. klin. Wchnschr., Jan. 20, 1908.

As an illustration of the condition mimicking tuberculosis we have a case reported by Lacapère and Ravaud,[2] in which the symptoms seemed to indicate plainly that the enlargement was tuberculous. The patient's husband was tuberculous, and she herself had recently fallen away in flesh. Three years before, the patient had contracted syphilis, accompanied by the usual symptoms, and had been treated during an entire year with injections of soluble mercurial salts. Six months before, there had appeared a little tumor in the right submaxillary region, which was incised by her doctor, but had never healed; the fistula remaining even under specific treatment. Two months after this the right preauricular ganglion enlarged. That was incised, and became fungous and fistulous also. When the patient consulted Lacapère and Ravaud there was, in the latter region, three little ulcers from 3 to 4 mm. in diameter of unmistakable gummatous nature. The presence of the typical gummatous ulcerations allowed a positive diagnosis of syphilis, and, besides this, there was the history and the rapidity of evolution of the malady; and, furthermore, there was a subcutaneous gumma of the internal surface of the left arm. After three weeks' treatment with iodin and mercury the fungous fistulas were cicatrizing nicely and the gumma of the arm had diminished one-half.

More important than all the rest is the likeness these late enlarged lymph-nodes in syphilis have to lymphosarcoma, particularly when it is the only condition found, as in our own case.

In a case reported by one of us[3] in 1891, the mimicry of lymphosarcoma was characteristic, but not so striking as in the case that forms the subject of the present paper. The patient had had a sore ten years before. Five years later there were swellings in both sides of the neck, which disappeared in two weeks under antisyphilitic treatment. There were swellings in both armpits two years later, which were successfully treated in the same manner. He came for treatment because of swellings in the neck, which had started five months previously. All the tumors were freely movable, except a very large one on the left side of the neck extending down over the chest. All were firm. The only painful tumor was one above the right clavicle. There were some hyperemic patches on the skin. In no instance was the skin attached to the tumor beneath. Urine and blood were normal. There was no indication of enlargement of the deep glands either of the abdomen or thorax. The patient made a complete recovery under antisyphilitic treatment.

Here we may mention a case reported by Kreibich,[4] of great interest because of a mistake in the diagnosis. The patient, 36 years old, had partial ankylosis of many of the joints due to a gonorrheal infection. Although the patient was thin and weak, there was no cough and no family history of tuberculosis. The lymph glands of the left side of the neck began to enlarge and were removed. Later enlarged glands on the right side were removed, and a second operation on the left side was necessary because of a recurrence. Following this, other glands in the neck enlarged, with infiltration of the overlying skin, extending backward on the neck and upward on the cheek. The patient was then transferred from the surgical to the dermatologic clinic. Ulcers, characteristic of lues, had by this time appeared and a tendency to marked scar formation on spontaneous healing was observed. The whole skin of the left side of the neck was dark red, firmly thickened and bound down. The occurrence of the characteristic ulcers made the diagnosis less difficult. There was a history of a small sore on the penis fourteen years previously, which had healed in eight days under treatment. The ulcers healed, the infiltrations disappeared and the swelling of the lymph-glands receded rapidly under general and local mercurial treatment. The joint conditions due to the gonorrhea remained unchanged.

In a personal communication, Dr. Charles N. Dowd, of New York, states that he has seen many cases of enlarged lymph-nodes which were benefited by antisyphilitic treatment, and he believes that they are double infections, syphilis and tuberculosis, or syphilis in combination with one of the milder infections. He has not seen nodes greatly enlarged, which he believed to be of purely syphilitic origin.

But even viewing it in this light, one cannot conceive of any other infection clearing up as did our own case under the medication. If it had been, as was suggested, an attenuated pyogenic infection, it would have unavoidably broken down in the center of the large mass. No combination of infections can be imagined as marching along to complete resolution as did the tumors in this case. If syphilis and tuberculosis had been associated, the syphilis would have cleared up, and tuberculosis would have remained.

As to the rarity of the condition, a repetition of the statement made by Kreibich is to the point. Golod found it once in 573 cases. Fournier did not see it at all in 3,429 cases. Dr. Sigmund Lustgarten reported three similar cases in a most able article,[5] which thoroughly covers the literature up to 1890. He states that but 20 cases of glands affected in an isolated manner had been reported, the number including his own cases. He makes three divisions of luetic lymphomas:

1. Luetic lymphomas concomitant with or subsequent to other syphilitic lesions.
2. Luetic lymphomas with visceral affections in a predisposed individual subsequent to surgical or other traumas; or in glands which a previous disease has rendered less resistant.
3. Luetic lymphomas as a single manifestation of the disease.

The attitude to assume in a case of this kind would seem to us to be as follows: The possibility of syphilis must be considered and a Wassermann test carried out. To save any waste of time a vigorous course of antisyphilitic treatment should be immediately begun, preferably with inunctions carried out as strictly and with the same carefulness as an operative procedure in surgery; or with a course of injections of mercury, either of gray oil, or of an insoluble salt, such as the neutral salicylate of mercury. At the same time iodid of potash should be given, beginning with 10 grains three times a day and running up to 50 grains if necessary.

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**Psychoses in Pellagra.**—S. Zsako has recently reported in the *Orrosi Hetilap* 27 cases of pellagra insanity among the inmates of the Klausenburg (Kolozsvar) asylum. He regards the prognosis of the pellagra psychosis as bad, the condition tending more and more to the manic-depressive type, accompanied by distressing hallucinations and dread with frequent paralyses. Klausenburg is in eastern Hungary, about as far north as Switzerland.

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[2] Lacapère and Ravaud: Bull. Soc. franç. de dermat. et de Syph., December, 1908, p. 332.

[3] Montgomery, D. W.: Pacific Med. Jour., Feb. 18, 1891.

[4] Kreibich, C.: Med. Klin., Dec. 29, 1907.

[5] Lustgarten, S.: Ne wYork Med. Rec., Jan. 11, 1890

# GENERAL THERAPEUTICS AND SURGERY IN DENTISTRY *

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The title of my paper is somewhat misleading, as it is my object to dwell on the sad fact that therapeutics, general medicine and surgery have hardly any place in dentistry as practiced to-day by the vast majority of dentists. It is my intention to make this paper the first of a series on the subject.

What are the duties of a dentist? Nothing short of the preservation where possible, otherwise the restoration, of the buccal cavity, with its teeth and adjacent tissues, to its highest degree of normal physiologic proficiency. This, of course, includes the care, when necessary, of the mouth and all that concerns it, prior to the eruption of the deciduous teeth, the care of the deciduous teeth and the pre-eruptive stages of the permanent set, together with the latter; it also calls for any manipulative or other interference—substitution and so on—required in order to obtain the above result. To accomplish this end, the ideal dentist should employ all possible agencies—mechanics, surgery, general medicine, therapeutics, materia medica—and should have a thorough knowledge of each.

It is agreed by all, I think, that the mechanical end of the profession of dentistry, which has been the prime factor in placing dentistry largely in the category of a trade, has been well cared for. Marvelous results have been reached in this sphere. As a mechanic the average dentist excels, but as a scientific student and follower of surgery and general medicine applicable to dentistry, he fails. Yet it is through knowledge of these important branches that he will do his best work, deserve and receive the due recognition from the community and enter into the enjoyment of the higher and more enviable social standing of the medical man. Neglect and ignorance of the great fields of surgery—general medicine, pathology and therapeutics—have been the great factors in branding the dentist a mechanic. Ignorance primarily on the part of the dentist of things medical and ignorance secondarily on the part of the medical man of things dental have much to answer for.

Much has been said and done of late years to rescue the dental profession from the hands of the mechanic, pure and simple, and to entrust it to its rightful guardian and more trustworthy follower, the scientific man, the stomatologist, orthodontist or oral surgeon; but much yet remains to be said and done before the calling will enjoy the proper and exalted position it should hold in the eyes of the community at large and the scientific world in particular. In this progressive age there is no such thing as standing still; it is either retrogression or progress, and we must ever be on the watch for the signs of either.

While the dentist does not enjoy the social recognition in England that he does in the United States, the scientific training of the English dentist does not fall short of that of his confrère in the United States. Yet it has been but recently a question in Parliament as to whether the dentist should be prohibited from administering anesthetics (Dr. W. Hewitt's bill). On this side we have postgraduate schools of anesthetics for dentists, be it said to the shame of our dental colleges. To quote Dr. E. Talbot, "dental teachers are decades behind the progress made in other directions in medicine"—is to put it mildly, I fear. The most important branches that should be the foundation-stones of our calling—pathology, physiology, surgery, anatomy, therapeutics and others—are shamefully slighted in our dental colleges in order to pamper to this commercial age by short-cut inducements to students. Along these lines were the bitterest fights between the best and worst elements at the faculty meetings of one of the most progressive dental schools in Pennsylvania of which I had the honor of being a member.

As long as the human race possesses teeth, so long will the mechanical aspect of the dental profession endure; but each year will bring fresh proof that much of this mechanical labor can be obviated by the proper use of the fruits of scientific research work in the fields of preventive and curative medicine and surgery.

What branch of medicine does not directly or indirectly concern the oral cavity? Against the many defects of the oral cavity, as cleft palate, protrusions, retractions, malocclusions and absence of teeth, the whole range of medicine is, in turn, called into play. The medical profession is not only being made to realize the extent and importance of the field of dentistry, but is being compelled to feel its ignorance of this unexplored region. Happy will be the day for the patient when the dentist knows what he should know about things medical and the medical man knows what he should know about things dental.

Many will say that as soon as dentists begin to prescribe general remedies or resort to surgical means the medical world will accuse them of trespassing. It is the fault of the dental profession that such impertinent interference has been and is tolerated, for we, its members, have been so ignorant of these medical fields that we have felt ourselves to be strangers, and as strangers in a strange land we have too often allowed ourselves to be turned away from our own. But our ignorance is, as I have already said before, equaled by the ignorance of the medical man of things and conditions dental.

The majority of the medical fraternity who take on themselves the burden of regulating the duties of the dental practitioner are, as a rule, men who would stumble at writing a prescription for a dose of castor-oil, and yet would criticize a humble dental practitioner for administering a diuretic, or any other drug, should he deem such necessary to regulate a condition manifesting itself in the mouth.

It is the gardener's duty to produce flowers and vegetables. Were we to confine his efforts to the flowers, leaves and branches, and forbid his touching the soil, we could not honestly expect him to get results; nor can we expect the dentist to do his best work in the dark shades of ignorance of everything but the mechanical side of his profession, his efforts being confined to the teeth and their roots. The rhinologist does not call in the services of the surgeon or medical man whenever he deems it necessary to operate on a deflected septum, nor does the laryngologist or the otologist require a special dispensation to give general or surgical aid to tuberculous or other conditions invading their fields of activity. Why should the dentist, alone of all specialists, be subject to such restrictions? Can it be that the mouth only calls for the services of a specialized plumber or "tooth carpenter," while the nose, ear, stomach or rectum must be attended to by the scientific, medical specialist?

Sir Frederick Treves asserts that "more care about the mouth means less care about the diet." Another

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* Read in the Section on Stomatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

noted writer states that "the great sanitary reform of the world is not the abolition of the tubercle bacillus, but lies in the stupendous task of revolutionizing the insanitary and infectious condition of the mouth." Still another writer says: "It is a well-known fact that dental treatment early in life prevents more disease in after-life than any other measure taken by governments, not even excepting vaccination."

What is more to be dreaded than a fulminant septicemia or attack of meningitis caused by an apical abscess? Who wants an uglier picture than that of a severe case of Ludwig's angina? Many oral infections are dangerous; some may prove fatal. Antral infections are especially frequent and have been most shamefully slighted, though they are very dangerous. The failure of the untrained eye of the dentist to recognize specific conditions often means the carrying of the worst of all ailments to innocent members of the community. The victims of such ignorance soon lose faith in the dental practitioner and look to the more trusted and esteemed medical man.

And now, after so much has been said about these defects, wherein lies the remedy? The present is far from the happy day when dental education will require at least five or six years to obtain; notwithstanding, therein is the answer to the question; no possible solution exists elsewhere.

After all, the great blame of our short-coming lies at the door of the avaricious commercialism of the age. Commercial reasons alone blocked the four-year course in dentistry. I shall remember to my shame and regret the day I cast my vote against a four-year course in a meeting of a dental faculty of one of the best institutions of Pennsylvania. Other institutions could not stand the strain of seeing their students flock into the three-year schools and so they, too, dropped back to a three-year course, shamefully retreating, knowing full well that the public was being sacrificed on the altar of the almighty dollar. As soon as the public is awakened to the fact that it is the victim of wicked injustice and is moved to insist on better qualifications, a brighter day will dawn, but not till then. There will then be no weak link in the chain of dental educational institutions, for all will have to reach the high standard. Legislative enactment can and must settle the question. All praise to Virginia and other progressive states that to-day are seriously considering the question.

It is realized to-day that a great mistake was made in 1839, when application, made to certain medical colleges to establish dental departments in the regular medical course, was rejected on the ground that dentistry was not of sufficient importance to justify its recognition by the medical world. But, after all, it is an ill wind that blows nobody any good, and perhaps the separation is a good one. It is easier to break the shackles of ignorance than it might have been to gain liberty from the red tape of medical domination. The field as it stands to-day is ours. We can blame ourselves and not roll the responsibility on medicine. We can always change and mend our ways without let or hindrance from without.

Our dental colleges of to-day, as has been truly said, are but schools of mechanics; there is no reason why they should not be colleges of scientific medical dentistry, turning out men worthy of taking full charge of the human frame in general and the human mouth and adjacent tissues in particular. As I said before, unless the dentist is satisfied to be perpetually looked on as a mechanic, he must make a radical change in his preparation for his life-work. A thorough general medical and surgical training along special lines pertaining to general medical and surgical dentistry, together with scientific research work in the same fields, are crying needs of to-day.

A properly equipped "medico-dental college" would give to the world men able to pick up the missing links between kidney lesions and pyorrhea alveolaris, able to stimulate or depress catabolic and metabolic phenomena, salivary or other glandular activities, able to lay bare secrets of agonizing neuralgia and to give relief to sufferers from it, to cope scientifically with malformations, defects and injuries with crises without calling in the aid of the medical man, who is usually as ignorant of the important dental phases of such questions as the dentist is of the medical side.

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## ABSTRACT OF DISCUSSION

**Dr. M. L. Rhein**, New York: The unfortunate condition of affairs which, in my opinion, has not been sufficiently emphasized by the essayist, is the ignorance of the general practitioner in regard to this aspect of the case. After a careful consideration of this subject for thirty years I am convinced that the solution of this problem lies with the medical practitioner more than it does with the dentist at large. There is a well-known principle that the demand for anything in this world is supplied, and if there is a demand for the properly educated dentist the material will be forthcoming to supply that demand; the demand is insufficient because of the ignorance of the medical man in not being able to discriminate primarily between the dentist who is properly educated, or has educated himself—it is immaterial—in the tenets of this specialty of medicine and the imperfectly educated man. It was because of this belief that I have presented a number of papers, some of them before this Section, trying to inculcate the point that the medical curriculum is mostly at fault in this subject. We all agree that the student when he graduates in medicine is ignorant of things about the mouth, and whatever information the physician obtains in his practice he gets by association and practice directly with the stomatologist. Unfortunately, my experience is that of the profession at large, that the medical man is unable to discriminate intelligently as to whether the mouth is being properly cared for or not. Now, that must necessarily be the province of the family practitioner. The patient places himself in his hands. His advice is followed, and he is the man who is at fault by means of the lack in his primary education. I believe that if this Section is to be successful in accomplishing this evolutionary work in the near future—and there has never been a shadow of a doubt in my mind that in the progress of events it is bound to come—our work should begin with the general practitioner. I do not believe we have been active enough in placing this point of view forcibly enough before the medical profession at large.

Within the past few years the American Medical Association has had as a part of its working force a Council on Medical Education, which to a certain extent has a governing influence over the medical curriculum of the medical colleges of this country, and I do not know of any way in which we can further this work more than by directing our attention at this time toward this Council which has charge of the medical curriculum of the country. I do not, as I said, advocate the teaching of the practice of dentistry in medical schools, but if students were taught the principles of dentistry, if they were taught what the normal physiologic mouth was and the pathologic significance of the changes found therein, they would not be in the position they are to-day—unable to appreciate the difference between a scientific and intelligent stomatologist and an ignorant mechanic. This is bound to be the crucial point of this question. No man with any self-respect is going to tell a physician of his acquaintance that a man practicing dentistry in his immediate neighborhood, who is the dentist of this physician, is incompetent to practice. Not only that, but it would transgress every principle of ordinary ethics, it would contaminate every sense of self-respect.

I speak with much feeling on this subject, because I believe that if this Section would get to work officially, either by means of a committee or of resolutions sent to the Council on Medical Education of the American Medical Association requesting it to investigate the needs of incorporating such a course of study in the medical curriculum, more would be accomplished than we have been able to do in this direction in the past.

Last week the first step was taken toward remedying this evil; there was started the organization of the university dental department in Philadelphia, and enough universities have started this association to insure its success; and it is the divorce of the university dental schools from the proprietary dental schools which has been so much needed. Another point is that we are apt to be a little strong in our condemnation of the schools for the course that they have pursued, but a school cannot pursue its curriculum without students, and therefore if the demand exists for properly educated dentists the supply will be forthcoming.

Dr. W. E. Fisher, New York: The essayist stated that there is a bill before the British Parliament to deny dentists the right to administer anesthetics. I do not know anything about the bill, but I think it is nothing against the dentist of Great Britain. In England, Scotland and Ireland the administration of anesthetics is a licensed profession itself, and it is for the protection of this profession that the bill is proposed and not to discriminate against the dentist. The surgeon there practically never administers an anesthetic; neither does the physician. Furthermore, the dental student of Great Britain has a better opportunity of gathering knowledge of things medical than the average dental student in any college, as a general thing, in America. Not that he is required but he has the opportunity. There is not a dental college in the United States that teaches general surgery. Every dental student in the United Kingdom must take a course in general surgery and general medicine, and it runs for six months, which is the usual course, and he takes his lectures side by side with the medical man. My knowledge is from experience as a student there.

Dr. J. E. Powers, Providence, R. I.: The issues presented by the essayist are not debatable. Every dentist knows only too well that all that has been said is true. The dental profession as a whole has accomplished wonderful results. The mechanical skill shown by dentists is in itself remarkable. Even had we done nothing else, the results accomplished along these particular lines are worthy of the highest praise. If we wish to make our profession equal to that of medicine, we must first make it a part of medicine. We cannot attempt to specialize intelligently without understanding the whole. Dr. Dray spoke of the aurist not requiring the services of a physician nor of a general surgeon when he performs a mastoid operation. This may be explained by the fact that he studies the whole subject of medicine before he specializes in the treatment of a part. I believe that before we can honestly regard our profession as an equal of medicine, we must first have a complete medical education. Whether or not we have a medical degree does not matter. A medical degree may mean everything or it may mean absolutely nothing. Unfortunately, there are dentists holding diplomas in medicine which are not worth the rags which were used to make the parchment on which their names are written. Politics, subterfuge, and commercialism are responsible for the conditions which permit a man to buy a diploma in the same manner in which he would buy so much merchandise. I know of one who is holding a diploma from a medical school who, if requested to answer twenty-five questions of his own selection embracing the subject of medicine, would fail absolutely. Therefore, what we need is not a parchment, which contains lies, but instead a proper knowledge of medicine. This alone will place dentistry on an equal footing with medicine. Following the kindly advice of Dr. Talbot, Dr. Brown and some others here, I commenced to study for the medical degree. I have finished the second year, and I shall always regret that I did not commence earlier. We need better instruction in the dental schools. I came from perhaps the best dental college in the country, yet when I came to study medicine I found I knew practically nothing of the general fundamental principles of pathology. Pathology is the foundation of both dental and medical practice, but it is not taught as it should be in the dental schools. I heard a dental educator say recently, "We cannot teach that subject as we would like to because we cannot interest the students in it." Therefore it all comes back to that great question of commercialism. I am glad that this paper is but one of a series. I believe that this series of papers is bound to bring good results and that it will be read by physicians throughout the world, and I am sure will be of great value in determining the factors which the essayist rightly says mould the future of dentistry.

Dr. M. L. Rhein, New York: I want to correct Dr. Powers. I trust I did not make myself so badly understood. I meant that this method is the one we have been pursuing for years, but it is work that has shown very poor results. The publication of paper after paper along this line in The Journal of the American Medical Association does not show the results we hoped for, and the only way to get such a result is to see that the curriculum of the medical college is amended.

Dr. Carroll W. Allen, New Orleans: It was my feeling of cooperation with the dentists that brought me from the Section on Surgery. I feel, too, that greater cooperation between the medical profession and the dentists is the thing we need.

Dr. A. R. Dray, Philadelphia: Ignorance of matters dental on the part of the medical man I thought had been conceded. I wish to make myself a little more explicit if I may, by way of showing the consequent evils of such shortcomings of medical practitioners. At present, in the neighborhood of Philadelphia, I believe there is a valuable life passing away owing to a condition that was very gravely aggravated by shameful neglect of the patient's mouth. It is a case in the hands of an eminent medical practitioner. About three years ago I was asked to see in a dental capacity the patient, who was a nervous wreck under the care of the said medical man. I did so and gave some advice that I thought was necessary. The condition of the patient's mouth then was an average condition. The patient is to-day dentureless. Every one of the teeth in that patient's mouth has since decayed away. The general condition has been terribly burdened by inability to masticate food, to say nothing of being slowly poisoned by a mouthful of diseased teeth, etc. The medical man has seen this patient time after time, and has virtually told me to stand aside "until he (the patient) feels better;" that the patient is too ill to have any dental work attended to. As a medical man I know that this patient is and has been all along too ill to have his dental work neglected and should have had it attended to; his oral condition is as grave as any other pathologic condition from which he may be suffering. Many other similar cases come under the observation of us all.

In reference to the point brought up regarding the new law in Great Britain regulating the qualifications required of those administering general anesthetics, I want to say that a discrimination was made directly against the dentist of Great Britain, only the medical practitioner being allowed to administer anesthetics. The question of dentistry being the equal of medicine never entered my head. I do not like it put that way—I referred to the question of making dentistry a branch of medicine. It should have that honor and as such have the support of the community at large and of the scientific world in particular; and dentistry should be recognized as a branch of medicine. But it should be insisted that those who practice it should qualify as members of the medical profession.

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**Child Study.**—Prof. Karl Pearson, at the instance of the child study society (*Nature*, Dec. 2, 1909), has drafted a schedule for studying the factors influencing the social life of the child, to be filled in by heads of families of teachers intimate with the families. The schedules are being distributed by the society which appeals to members of learned societies and professional men and women in general to aid in the work by applying for schedules and filling in the particulars. The number of the family need not be large but particulars of father and mother and at least two children are desired.

# NEISSER BACTERIN IN CHRONIC GONORRHEAL URETHRITIS *

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When any method of treatment is advocated by the research workers, and particularly when the new ideas advanced are no less than revolutionary, it becomes the duty of every clinical observer who puts these new ideas to practical test to report his findings, whether favorable or adverse, and thereby add to the sum of fact on which alone a sound conclusion may rest. This is my reason for presenting a single case of this kind.

*History.*—The patient, a robust young laboring man, 23 years old, single, rather loose in his habits, came under my care in May, 1907. He gave the following history of his present trouble. He contracted his first case of gonorrhea in July, 1905, and, on the advice of experienced friends, took a course of self-treatment for about six months, after which time the discharge ceased for the time. He was free from trouble for about six months; then he noticed the gradual reestablishment of a gleety discharge. He then sought medical advice, and was treated for several months with no effect on the local condition. He has had more or less discharge ever since.

*Examination.*—This showed a young man whose only physical abnormality appeared to be a slight gleety discharge from the penis. Palpation of the prostate, per rectum, showed that organ to be enlarged, boggy and tender, and pressure on it caused the appearance of several drops of milky fluid at the meatus. This fluid, on microscopic examination, revealed many gonococci and pus cells.

*Treatment and Course of Disease.*—I gave the man a very doubtful prognosis as to cure, and put him on classical treatment for chronic gonorrhea with prostatic involvement, including local and general measures and prostatic massage, under which the clinical symptoms improved markedly. Early in December the patient indulged in some rather unusual dissipations, which resulted in a very slight augmentation of the discharge, which, while unchanged in character, still showed, seven months after beginning treatment, numerous intracellular and extracellular gonococci. I then resolved to test the efficacy of the opsonic treatment, and procured a supply of stock Neisser bacterin. The first three injections were of 15,000,000 killed bacteria each; the second three of 25,000,000 each, and the last three of 40,000,000, 60,000,000 and 75,000,000 respectively. All injections were made in the thighs, using the right and left alternately, and were given at intervals of one week for the first six and of ten days for the last three.

*Microscopic Examination.*—The specimens, a report of which follows, were taken just before giving the injection of the same number. The microscopic examinations were made by Dr. Helene Knabe, of Indianapolis, to whom I am indebted for this valuable assistance and for permission to use her results.

Specimen No. 1 showed numerous gonococci.

Nos. 2 and 3 showed a very small number of bacteria, a few of which were intracellular.

No. 4 showed a slight increase in the total number, but never more than two pairs within a single pus cell.

No. 5 showed a marked increase in the number of bacteria, particularly within the cells, looking like a new reaction.

No. 6 showed a slight diminution in the number of specific cocci, and in No. 7 the number present was still smaller.

No. 8 contained multitudes of gonococci, largely intracellular. In one field there were sixteen cells containing from 2 to 25 bacteria per cell.

No. 9 was the worst slide of gonorrheal pus I have ever seen, looking as if all the dead bacteria injected had come to life in the discharge although, at this time, the clinical symptoms were the same as they had been.

No. 10, taken one week after the last injection of vaccine, showed very few cocci, never more than two to a cell.

General and local treatment was now resumed, and while the clinical picture remained constant, the microscopic findings varied greatly from time to time. Two or three specimens were reported as having so few gonococci that they were hardly to be found, and then followed one showing cells which contained from 50 to 100 bacteria apiece, these phagocytes occurring in groups, and containing practically all the gonococci in the specimen.

In June, 1908, with conditions in about the same status as at first, the case passed out of my observation.

In this case the Neisser bacterin clearly demonstrated its ability to increase phagocytosis, but did not appear to produce any favorable effect on the course of the disease. There were, however, no untoward effects from its use—no pain or soreness at the site of injection and no symptoms of any kind.

The pronounced increase in the number of bacteria in the discharge after beginning the vaccine treatment is a condition I have never seen reported, although one or two other clinical observers have told me that they had seen results similar to mine.

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* Condensed from a Paper Read before the Twelfth Councillor District (Ind.) Medical Society, at Fort Wayne, November, 1909.

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# SUPPURATIVE PERIGASTRITIS

## A CASE WITH TUMOR FORMATION FOLLOWING PERFORATED GASTRIC ULCER OF THE GREATER CURVATURE

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This case seems to be worth publication on account of the rarity of the condition and the difficulty of the diagnosis.

*History.*—B. F., aged 45, was first seen by me in my office, June 15, 1906. Up to the summer of 1902 the patient had never suffered from stomach or bowel trouble. At that time he began to complain of constipation and hemorrhoids, for the former of which he had been under treatment several times. None of the ordinary cathartics were so promptly effectual as Epsom salts. The patient often experienced a sensation of fulness of the stomach and suffered from severe headaches. These symptoms, however, disappeared as soon as the cathartics were taken. The patient also complained of acid eructations after eating. His appetite was always very good and he had never vomited or had any abdominal pain. On two occasions he observed bright blood in the stools, which he ascribed to the hemorrhoids. The patient could not remember having had any of the usual diseases of childhood. At the age of 18 he had a "chancre" for which he was treated by a physician for four weeks. He had never noticed any rash on the skin. Two years before I saw him the patient had had a severe attack of facial erysipelas, on account of which he was confined to bed for six weeks.

*First Examination.*—Physical examination, June 15, 1906: Strong, robust-looking man. Teeth and gums in poor condition. Tongue moist and slightly coated. Lungs; anteriorly, slight evidence of emphysema; posteriorly, clear. Heart sounds, clear, no murmurs. Abdomen: any tenderness or resistance to be elicited either by superficial or by deep palpation. Liver: not enlarged. Spleen: not felt. In the anal region several hemorrhoidal tumors to be seen. Patellar reflexes: lively. In the urine neither sugar nor albumin could be demonstrated. Examination of gastric secretion and motility, June 16 and 18, 1906: The filtrate of the material expressed from the stomach after Ewald test-breakfast showed (two examinations): free hydrochloric acid, 38 and 36; total acidity, 70 and 76. Starch digested to amidulin (shown by bluish color after addition of Lugol's solution). The morning after a Boas test supper no macroscopic nor microscopic evidence of stasis could be found in the 12 c.c. of gastric juice expressed from the fasting stomach. A diagnosis of secondary (reflex) hyperchlorhydria was made and operation for hemorrhoids was advised.

On May 22, 1907, the patient again consulted me. He then said that while the constipation was less after the operation he was occasionally obliged to have recourse to Epsom salts. He complained of some epigastric pain, beginning one to three hours after meals. The pain was, however, worse when the stomach was empty and the patient was often forced to take food in order to get relief. This pain, beginning after meals, seemed to depend but little on the character of the food and to a greater extent on the quantity taken. Lately even milk and soup had been poorly borne.

*Second Examination.*—No abdominal rigidity or tenderness could be elicited even at that time. Examination of the gastric contents on the three following days showed well-digested chyme. The free hydrochloric acid was 36 and 40, the total acidity 80 and 80.

A dietary suitable to the patient's hyperacidity was ordered; sodium citrate and burnt magnesia each 0.6 gm. (grs. x) three times a day was prescribed, and the stomach was washed out three times a week with silver nitrate solution (1 in 10,000). After six washings the patient felt well. The pain after eating had quite gone, though there was still barely perceptible tenderness over the empty stomach. On July 2, 1909, the patient consulted me for the third time. Until June 18 he had felt comparatively well. On that day, five hours after the usual supper-time, as he was about to retire, he was suddenly seized with a severe, cramp-like pain, just above the umbilicus. The attack lasted about three hours. A hypodermic injection of morphin had no effect on the pain, but after a high enema the attack terminated. Attacks of cramp-like pain, though not of the same intensity and duration, were, however, repeated, at first, every day; later, every second or third day. The pains were for the most part just above the umbilicus; occasionally they radiated to the right hypochondrium, but never to the left. The patient's physician, who saw him during one of the attacks, thought that he was suffering from gall-stones. The attacks were in no way connected with the ingestion of food.

*Third Examination.*—July 2, 1909: This revealed marked sensitiveness midway between the ensiform and the umbilicus. There was some tenderness one finger's breadth above the navel in the right parasternal line. Neither the characteristic dorsal pain point for ulcer (to the left of the spine), nor for gall-stones (to the right) could be elicited, nor despite most careful palpation of the entire abdomen could any rigidity be appreciated. The patellar reflexes were present but not exaggerated. Four examinations for occult blood in the stool with guaiac and benzidin were negative. Since the patient had had a chancre of doubtful nature the Wassermann reaction was tried for me by Dr. Kaliski on August 3, but it was negative.

*Course of Disease.*—The attacks of cramp-like pain continued intermittently until August 20. Atropin sulphate in 1/100 grain doses four times a day shortened the attacks but did not afford complete relief. The patient next began to complain of continuous distress, especially when walking or sitting. This regularly disappeared on lying down. On August 22 this condition was the same as on July 2. No abdominal rigidity was demonstrable. From August 24 to September 12 the patient had no attacks of colic but the continuous pain, present when walking or sitting, persisted, though there was no pain when reclining. The patient thought he would feel quite well if he could lie down all day. On the evening of the 12th he had a chill. He feared cancer because he had lost eight pounds in weight during the last week; this was the first time he had mentioned wasting.

*Fourth Examination.*—This revealed a solid mass (indefinite because of the rigidity) to the right of the mid-line and just above the navel. Distinct tenderness was elicited by pressure over the tumor; coughing and laughing were painful. Pressure from before backward over the liver caused no pain. Examination of the gastric juice on the following day showed a marked diminution in the hyperchlorhydria; free hydrochloric acid 12 and 10; total acidity 40 and 40; lactic acid negative; starch digested to maltose.

*Operation.*—On September 22 laparotomy (excision of inflammatory mass containing multiple abscesses adherent to the free edge of the liver and the greater curvature of the stomach) was performed by Dr. A. A. Berg at the Mount Sinai Hospital. A three-inch incision was made over the gall-bladder region. The gall-bladder was found to be perfectly normal. To the left of the latter and entirely separate from it was a mass the size of an orange, adherent to the free edge of the liver, the abdominal parietes and the greater curvature of the stomach, where an opening the size of a pin-hole was noted. The pylorus was patent. The mass was first separated from the liver. In doing this several small abscesses were opened and their contents evacuated. The adherent mass was then excised in sections. The stomach, together with the transverse colon, was lifted upward and the upper part of the jejunum was located with a view to doing a posterior gastro-enterostomy. As the patient was taking a very poor anesthetic the latter operation was not performed, and the abdominal incision, which had been lengthened to about six inches, was closed.

*Pathologic Report.*—The specimen consists of several small sections which together are about the size of a small orange. The surface of the mass is slightly roughened and the interior very hard, resembling scar tissue with some areas of necrosis and small abscess cavities. The mass appeared to be composed of omentum with inflammatory changes. Microscopic examination revealed acute and chronic inflammation. Culture from the pus showed Gram-positive cocci in the smears from one flask and no growth in the media in the second.

Three weeks after the operation the patient was discharged well.

In 1895 Hofmeister reported a case of ulcus ventriculi adherent to the anterior abdominal parietes which, causing perigastritis and infiltration of the anterior abdominal wall, gave rise to a tumor. Up to that time only two similar cases had been described, one from Billroth's and one from Mikulicz's clinic. But in neither was the diagnosis made before operation. Hofmeister considered the following symptom-complex as typical of these cases:

> Some time after the beginning of long-continued indigestion of greater or less severity, a tumor, very gradually increasing in size, develops in the left epigastrium. During the later years of the malady pain becomes pronounced. This is very severe and is confined to the vicinity of the tumor. It takes the form of attacks, especially after the ingestion of food. Vomiting was observed in all three cases. Hematemesis once. Finally the nutrition is impaired to a marked degree, and the patient may become greatly emaciated.[1]

My case does not coincide with Hofmeister's description in all respects. The tumor arose in the right epigastrium. The attacks of colic bore no relation to the ingestion of food. Vomiting was never a pronounced symptom. Possibly the nutrition would have been markedly impaired had the tumor not been demonstrated so early. Hofmeister says nothing at all about suppuration in the tumor tissue. He probably had in mind cases of adhesive perigastritis, concerning which all authors remark on the difficulty or impossibility of the diagnosis. Rosenheim[2] says that one should always think of perigastritis as the cause of pain whenever internal medication (especially large doses of bismuth or silver nitrate) fails in the treatment of any very chronic ulcer, and whenever mechanical treatment, e. g., lavage (if it be indicated by motor disturbances) systematically carried out is without avail. As already mentioned, treatment with silver nitrate was not without benefit in our case, nor was there any disturbance of motility, and the pylorus was quite patent. Neither is much of Rosenheim's description applicable to our case.

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1. Hirschfeld: Ueber peritonealen Adhäsionen durch Ulcus ventriculi, Grenzgeb. der Med. und Chir., vi,
2. Rosenheim: Deutsch med. Wchnschr., 1895, No. 3.

According to Boas,[3] perigastric adhesions as such are only exceptionally recognizable. In his opinion, one can in most cases hardly ever arrive at a position beyond probability or supposition.

In my opinion, the chief point lies not in recognizing the perigastritis or the character of the tumor, but in diagnosing the latent gastric ulcer which leads to these complications. Duplant[4] rightly says that symptoms of perigastritis are commonly seen in dyspeptics in whom an ulcer has been suspected for a long time. According to this author, the only symptom of value is the palpation of an indurated mass corresponding to the affected part. In an analysis of 17 cases he considers that cases of ulcer with perigastritis do not often lead to scar formation. This opinion is in complete accord with the observations in our case.

During the operation a small opening was found in the greater curvature, but there was no sign of cicatrization. Possibly the perforation occurred on that evening when, five hours after his supper, the patient felt the severe pain just above the navel. The perforation was not fatal, because the stomach was nearly or quite empty; because the perforation itself was small, and because it was in some way closed by the omentum, thus producing only a local suppurative process with consequent tumor formation.

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# CALCIUM IN TUBERCULOSIS

## A NOTE ON ITS EFFECT ON THE TEMPERATURE CURVE

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The following observations on the effect of calcium administration on the temperature curve in tuberculosis were suggested by Croftan's summary of the work done in calcium metabolism in tuberculosis.[1] It was stated by this writer that the preliminary results from the administration of calcium salts, "by mouth or other routes," had given suggestive figures as to the modification of the temperature movements in tuberculized animals. The preliminary work which led up to the question of the effect of calcium on the temperature had its origin in the investigation of the urinary calcium excretion in tuberculosis. It was shown by Senator in 1877 and by Ott in 1901 that there is an abnormal amount of calcium excreted in the urine of tuberculous patients. Croftan tuberculized five dogs with a pure culture of the tubercle bacillus injected directly into the jugular vein. Each animal showed a progressive increase in the amount of calcium excreted in the urine. The same investigator stated that advanced tuberculous subjects with destruction of lung tissue show an increase in calcium excretion from the normal amount (0.2 to 0.3 gm.) to as high as 0.47 gm. He states further that there is a selective affinity between calcium and one of the protein substances occurring in the bodies of the tubercle bacillus. This latter substance, deutero-albumose, has been isolated also from culture-media in which tubercle bacilli were growing, from Koch's old tuberculin, from tuberculous urine and sputum, and from tuberculous lymph glands and pulmonary foci.

It has been shown by Kühne that deutero-albumose will produce a rise in temperature analogous to a tuberculin reaction if injected into tuberculized animals. If, however, the affinity of deutero-albumose for calcium be saturated, this proteid when injected into animals loses in large part its fever-producing properties. Croftan experimented with tuberculous cattle and artificially tuberculized dogs and rabbits and concluded that he was justified, apparently, in stating that the addition of calcium to the probable chief pyretogenic principle of the tubercle bacillus robs it of its fever-producing power. It is stated further that it is exceedingly difficult to procure deutero-albumose free from calcium, and the two can be separated only by chemical means. It is to be inferred, therefore, that the selective affinity of the deutero-albumose contained in the tubercle bacilli and other body tissues and fluids have been saturated. Although it has been shown that the calcium excretion has been increased in tuberculosis, it has not been shown that not enough calcium has been retained to satisfy the selective affinity of the body or bacillary proteids.

In consideration of the long-standing use of hypophosphites, glycerophosphates and other calcium-containing preparations, it was not confidently expected that the administration of calcium salts would cause any decided effect on the temperature curve in tuberculosis. However, thirty tuberculous patients, all showing a more or less continuous elevation of temperature, were selected mainly from the Lucas County Hospital. The temperature of these patients had been recorded previously, so comparisons could be instituted. Each patient was given calcium lactate, 0.3 gm., every four hours. This was continued four weeks without any particular change in the former treatment received by each patient. This had been variable in the individual case, but included sleeping on the porch, forced feeding within certain limitations, injections of tuberculin (B.E.) and mercury succinimide, tonics and other measures symptomatically rendered necessary. Most of the cases were sleeping on the tuberculosis porch. Only those cases were given calcium that had been showing a more or less continuous rise in temperature. It has not been my custom to administer specific temperature-lowering drugs, such as the coal-tar preparations, to pyretic tuberculous patients, relying more on the outdoor life and other hygienic conditions to lower the fever. For this reason whatever virtue might be inherent in the calcium probably would be observed. No attempt was made to select cases in particular stages of the disease. They have varied from several months' duration to long-standing, chronic cases of several years' duration, but practically all of the lung cases showed advanced involvement of one or both lungs. The youngest patient was a child of 5 years, the oldest were a man and woman, each 63 years. Nine patients were females, twenty-one males. Four patients only were under treatment for forms of tuberculosis other than of the lungs. These were cases, respectively, of peritoneal tuberculosis, tuberculous abscess of thigh, renal tuberculosis and tuberculosis of hip joint. Three of the pulmonary cases died shortly after the observations herein recorded were concluded. Three patients showed a noticeable alteration in the temperature curve. One was a white boy of 8 whose tuberculous hip was rendered immovable by plaster dressings. The second was a white girl of 19 under treatment before admission to the hospital in whom the disease was more or less arrested. The third was a patient not in the hospital but under careful observation and treatment. The remaining cases, more or less advanced, as stated above, showed little alteration. The time of administration was short (four weeks), but, so far as I could observe, the result was *nil*.

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[3] Boas: Diagnostik und Therapie der Magenkrankheiten, Ed. 4, 1897.

[4] Duplant: Rev. de méd., 1903; Arch. f. Verdauungsk., x, 97.

[1] Transactions of the Sixth International Congress on Tuberculosis.

The conclusion which reasonably may be drawn is that pyretic tuberculous patients in various stages show no response, in so far as the temperature is concerned, to the administration by mouth of calcium salts.

*237 Michigan Street.*

## COMBINED OPSONIZER AND INCUBATOR

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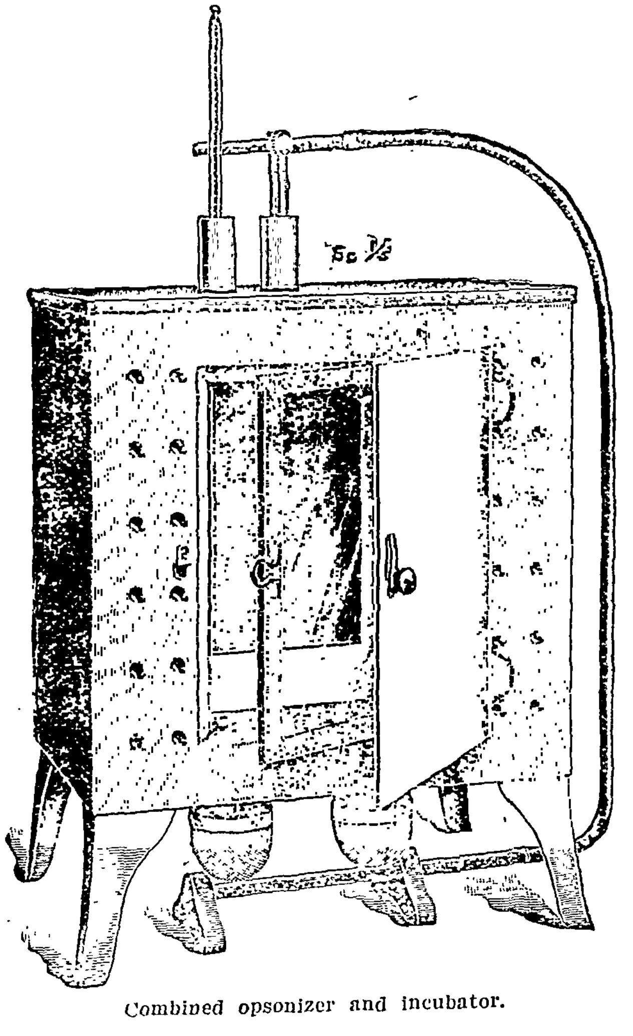
The rapid increase in the use of the opsonic index and vaccine therapy in the hands of private workers has necessitated a simplification of the apparatus required. The combination of an opsonizer and incubator large enough for the needs of a single individual has been brought about in the design illustrated here, which explains itself. The apparatus, devised by me, has been in use for the past year in the inoculation department of St. Mary's Hospital, London, where I have been an assistant under Sir Almroth Wright, and has been found to be satisfactory in every respect. The temperature is maintained practically constant by using a Reichert regulator, and with a single fire one has constantly ready an opsonizer as well as an incubator.



Combined opsonizer and incubator.

The full-sized model is only 12 inches square, and yet will hold in the incubating chamber 36 vaccine tubes, and on either side of the incubating chamber are situated openings for 24 opsonic pipettes. It is beautifully finished in copper and makes a very neat piece of laboratory equipment. Maw, Son & Sons, London, have placed the apparatus on the market.

## PELLAGRA

J. F. PATTERSON, M.D.
NEW BERN, N. C.

Believing that a case of pellagra in which the etiology appears to be clear would be of interest, I wish to report the following case:

*History.*—Mr. R., white, aged 54, farmer by occupation, consulted me in October, 1909, complaining of vertigo, intense gastric pain, nausea and frequent emesis. On examination he was seen to have an advanced and marked case of pellagra, the integumentary, nervous, and gastrointestinal symptoms being typical and differing in no way from those seen in the usual case of pellagra. The first symptoms of the present illness were noticed in July, 1909, when the patient began to suffer with a stomatitis, and the dorsal surface of his hands became inflamed—sunburned, he thought. When questioned in regard to the amount of meal used in his diet he stated that in May, 1909, he began to eat meal in the raw state, each day eating several large handfuls of it; in fact, his diet consisted largely of raw meal. The meal was always obtained from the same dealer and was western meal.

Another interesting point is that the horse that was fed on the same meal developed "blind staggers" and died. This, of course, may only be a coincidence, but it recalls the theory advanced by Dr. R. H. Bellamy of Wilmington, N. C., in regard to the probability of pellagra and "blind staggers" being due to the same cause.

# *Therapeutics*

### CHILBLAIN

Chilblain is an affection which has been sadly neglected in most text-books, by many practitioners, and by not a few patients. The fact that, although it causes considerable discomfort, it is not usually followed by serious results, is in part at least accountable for this neglect.

The conditions favoring chilblain are impaired and weak circulation. Hence it is seen chiefly in the lower extremities, especially in the feet, but may affect also the fingers, ears, nose and cheeks, parts especially exposed to the cold.

It occurs in individuals whose power of resistance is not great, and is, therefore, observed with special frequency among the young in whom this power has not become fully developed, and in the old, in whom resistance has become enfeebled. It also occurs in adults of middle life who have become debilitated. Finally, robust individuals sometimes suffer from it after severe exposure.

The chief recognized cause is exposure to extremes of temperature, and especially to dry or wet cold after the parts have been warmed, and particularly after they have been subjected to artificial heat, as happens when the feet have become overheated in front of a stove or over a register through which heat is coming from a furnace.

The principal manifestations of the disorder are a burning heat, with itching and redness. These symptoms are usually worse at night.

Rapid change of temperature or prolonged exposure to cold, and especially to cold combined with dampness and moisture, undoubtedly produces slight histologic changes, of an inflammatory character, in the cutaneous structures. These have been designated by some writers as chronic erythematous dermatitis.

Careful prophylaxis should always be observed. The hands and feet should be kept warm and dry, and the coverings of these parts should not be irritating or too tight. When the extremities have been chilled, they should not be warmed too rapidly.

Some patients need constitutional treatment to combat general debility and to improve the circulation.

Relief is sometimes obtained by painting the affected part with tincture of iodin, or with equal parts of tincture of iodin and tincture of opium. Oil of peppermint diluted with from one to six parts of glycerin has been recommended as affording relief.

F. Gardiner, M.D., of Edinburgh (*Practitioner,* February, 1908), recommends ichthyol, which may be used in the form of a 10 or 20 per cent. ointment with lanolin (adeps lanæ hydrosus). This should be spread thickly on linen, and applied for several successive nights. It relieves the congestion, inflammation, burning and itching.

Gardiner also recommends formalin, which, however, should be used with care if there are abrasions on the skin, on account of the intense smarting which follows its application to abraded surfaces. Formalin, Gardiner states, may be used in the form of a 10 to 50 per cent. ointment, but it must not be continued too long on account of its astringent action, which may result in hardening and cracking of the horny layer of the skin. Comparing the two drugs, he thinks that formalin is more effective, more lasting in its results, but harsher in its action, and therefore better adapted for use in men; while ichthyol is more soothing, more simple in application, and consequently better adapted for delicate skins. He has also used with benefit the faradic and high-frequency currents and the *x*-ray.

If the chilblain undergoes ulceration, the same author recommends the following ointment:

| ℞. | gm. or c.c. | |
|---|---|---|
| Hydrargyri ammoniati .................. | 30 | gr. v |
| Ichthyol (ammonii sulphoichthyolatis) .. | 60 | m. x |
| Amyli .................................. | 8 | or |
| Zinci oxidi ............................ | 8 | āā, ʒii |
| Petrolati ............................... | 15 | ℥ss |

M. et Sig.: Spread on linen and apply to part.

When the inflammation proves resistant to treatment, the possibility that the affection is something more serious than chilblain, perhaps either lupus erythematosus or Reynaud's disease, must be considered.

C. Ritter (*Münch. med Wchnschr.,* May 7, 1907) reports 150 cases treated by Bier's method of artificial hyperemia. He finds that this acts best in acute cases and in chronic cases occurring in fairly healthy persons. The action is always beneficial.

Hot air he finds to be most useful when the condition is of long standing.

## FROSTBITE

If chilblain is regarded as a chronic affection generally due to the action of cold, frostbite may be regarded as an acute affection due to the action of cold. When a portion of the body not properly protected is exposed to intense or extreme cold the tissues become affected, and if the cold is sufficiently intense and the exposure is sufficiently prolonged the part becomes frozen. Individuals in whom the circulation is weak, and particularly the young, the old and the debilitated, are especially likely to suffer from intense cold. Likewise those parts in which the circulation is least active, and which are least protected by clothing, as the ears, hands and feet, are prone to suffer.

Different degrees of frostbite are recognized. In the slighter forms, the smaller arteries become contracted, the circulation becomes slow, and there is venous stasis. This is accompanied by a change in the various structures, and also in the blood contained in the vessels, of the affected part.

If the cold is more intense or the exposure is more prolonged, vesicles and blisters or blebs, containing often sanguinolent fluid, form.

Finally, if the exposure is sufficiently severe and sufficiently prolonged, the entire part becomes congealed, and freezing and gangrene result.

Locally the part becomes cold, pale, or bluish, shrunken or wrinkled, and there is loss of sensation and diminution, or entire loss, of the power of motion.

Constitutional symptoms vary with the condition of the individual and the extent of the lesion. Loss of energy, fatigue and weakness are early symptoms. These may be followed by indisposition to continued exertion, difficulty of speech, delirium, coma, and death.

When a small part of the body is affected to a moderate degree the disturbed circulation must be restored gradually. The patient should lie down in a cold room, but should be well covered to protect him from further effects of cold. He should be given hot tea and coffee. The affected part should be rubbed with snow or cloths wrung out of cold water. If the part is warmed too rapidly there is believed to be danger from the too rapid restoration of the altered blood corpuscles to the general circulation.

If there are blisters, great care should be taken to treat them with the most minute attention to the details of aseptic and antiseptic procedures, in order to prevent infection and inflammation, which find in these cases all conditions favorable to their occurrence.

When gangrene develops, amputation is necessary; it should be delayed, however, until reaction has occurred, but should not be postponed until secondary debility has made the result of an operation doubtful.

If grave constitutional symptoms with actual or threatening coma are present when the patient is first seen, he should be kept in the recumbent position, wrapped in dry blankets, in a cold room. Warm, stimulating drinks, particularly tea or coffee, should be administered. The parts of the body affected should be rubbed gently and continuously with snow or with cold, damp cloths. Artificial respiration should be employed if needed, and the efforts at resuscitation and restoration should be continued for a long time, if necessary.

After recovery from the most severe forms, care should be taken to avoid fatigue, over-exertion, and exposure.

After a part has been restored from a condition of frostbite, its susceptibility to the action of cold is greatly increased, and caution should be exercised to avoid its becoming affected again by protecting it from exposure to cold, or by applying frequent brisk friction to it, if it is allowed to go unprotected.

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[*For other information see second page following reading matter*]

SATURDAY, FEBRUARY 19, 1910

## A PEPTID-SPLITTING FERMENT IN THE GASTRIC JUICE IN CARCINOMA OF THE STOMACH

That carcinoma of the stomach is, at present, practically a hopeless malady, is borne out by medical and surgical statistics. The cause of this appalling fatality is not difficult to discover and is found in the fact that, with very few exceptions, a positive diagnosis can be made only after all hope of a permanent operative cure has vanished. When the disease has advanced to the stage pictured in the text-books as typical—characterized by anacidity, with the presence of lactic acid and Boas-Oppler bacilli, by coffee-ground vomitus, and perhaps by a palpable mass in the abdomen—the possibility of lasting relief from excision is gone because of the almost certain existence of metastases. Any new diagnostic aid, therefore, is more than welcome.

Fischer[1] has shown recently that protein digestion in carcinoma of the stomach is carried beyond the usual stage characteristic of the stomach, in that mono-amino and di-amino acids are formed. Their presence accounts for the hydrochloric acid deficit so often encountered; the hydrochloric acid combines with the amino groups, while the free carboxyl raises the total acidity. Such hydrolysis might result from the presence of pancreatic juice or blood, both of which contain ferments capable of splitting proteins into amino-acids. But amino-acids were found in the gastric contents in carcinoma in the absence of trypsin or blood, and it was probable, therefore, that a special ferment, the product of cancerous tissue, was present and that it carried the cleavage of the polypeptids to the amino-acid stage.

Neubauer and Fischer[2] have attempted to demonstrate the presence of such a peptid-splitting ferment in the stomach contents of patients suffering from gastric carcinoma. For their experiments they used an artificially prepared polypeptid, glycyltryptophan, which yields tryptophan on hydrolysis. They first examined carcinomata and sarcomata from various parts of the body and found that these malignant tumors contained a ferment capable of splitting glycyltryptophan much more rapidly than that present in normal tissues and in benign growths. The pepsin-hydrochloric acid from normal men and dogs failed completely to hydrolyze glycyltryptophan. Their attention was next directed to gastric contents obtained from one-half to three-quarters of an hour after a test breakfast. Obviously, pancreatic juice and blood and the preexistence of tryptophan in the stomach contents had to be excluded. These conditions being fulfilled, the specimen is suitable for the examination, which is simple; a small quantity of glycyltryptophan is placed in a test-tube with about 10 c.c. of the filtered gastric contents, to which toluol is added to prevent bacterial growth. After four hours in the incubator, a small quantity of the fluid is removed with a pipette and tested with bromin water for tryptophan. In four normal individuals, in ten with peptic ulcer, in twelve with gastric diseases other than carcinoma, in four suspected of carcinoma, and in the vomitus from two cancerous patients, the test was negative, while in the seventeen cases of undoubted gastric carcinoma and in six suspicious cases a positive result was found.

The experience with the test is too limited, as yet, to determine how early in the course of the disease this ferment may be found in the stomach contents. That it is of diagnostic significance seems assured. Whether it will be of value in making an early diagnosis—at a stage of the disease when a surgical cure is possible—remains to be demonstrated.

## THE PHAGOCYTIC ACTIVITY OF THE LIVER

Many observations have emphasized from time to time the important part performed by the liver in protecting the body from soluble poisons reaching the blood through the digestive tract, until this function of the liver is now generally appreciated. That the liver has an equally highly developed capacity to remove bacteria, and foreign bodies generally, from the circulating blood is perhaps not so well known. For the purpose of performing this function it has developed a specialized cellular organization, which would seem, according to recent studies, to exceed in phagocytic activity all other fixed tissue cells and at least to equal the leucocytes in this respect. As the other great phagocytic system, the lymphatic glands, has specialized endothelial cells with highly developed phagocytic power, whose particular function is to take up bacteria and foreign particles coming to the glands in the lymph, so, too, in the liver specialized cells of endothelial origin have been set aside for the purpose of ridding the blood of similar obnoxious bodies, thus leaving the liver cells free for their multitudinous chemical operations. These stellate cells, commonly known as Kupffer cells, after the anatomist who first described them, lie in intimate relation with the blood-channels of the liver, on the one hand, and the liver-cells themselves, on the other, and their endothelial origin and functional specialization are now generally recognized by pathologists.

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[1] Deutsch. Arch. f. klin. Med., April, 1908, xciii, 98.

[2] Deutsch. Arch. f. klin. Med., 1909, xcvii, 499; abstr. in The Journal, Jan. 1, 1910, p. 81.

It has long been known that these cells have a striking tendency to take up pigment from the blood in diseases with much hemolysis, and bacteria and fat droplets have often been observed in them. Their great importance in the defensive mechanism of the body was first made prominent by the experiments of Cohn, in 1905, who found that if a watery suspension of colloidal silver was injected into the ear vein of a rabbit the Kupffer cells became packed with the silver particles within a few minutes, while no other cells in the body could be found to take up the particles in any considerable amount. Since the blood from the systemic veins reaches the liver less directly than almost any other part of the body, it is evident that the Kupffer cells must be actively phagocytic to a high degree, at least for colloidal silver.

More recent studies have demonstrated that the assumption is warranted that these cells represent a most important and highly developed means of defense, not only against colloidal silver, but also against bacteria as well as mineral poisons.[1] Even harmless particles, as fat droplets, are taken out of the blood with great rapidity by the stellate cells of Kupffer. Schilling[2] has made an especially extensive study of these cells and finds that not all forms of bacteria are taken up with equal facility by them, pus cocci being more readily engulfed than tubercle bacilli, while other observers have noted a special avidity for colon bacilli. In case tubercle bacilli infect the liver, it is the stellate cells in which they lodge and which form the chief cells of the tubercle. This has been demonstrated in a series of ingenious experiments by Oppenheimer,[3] who stained the Kupffer cells with colloidal silver, as Cohn had done, and then injected tubercle bacilli; in the forming tubercles in the liver it could be seen that the silvered Kupffer cells formed the "epithelioid" cells and the giant cells, thus establishing the disputed point that these characteristic cells of the tubercle may be of endothelial origin. These experiments also establish that Kupffer cells have proliferative as well as phagocytic activity which may be used as a means of defense, and Nathan,[4] observing their great activity under the influence of bacterial toxins, believes that these cells also play an important part in serum immunity as well as in cellular defense. It would seem probable that the endothelium of the liver, because of its incessant subjection to the influence of bacteria and poisons of all kinds coming from the digestive tract, has acquired a greater power of reaction than any other cells in the body, so that, even when the bacteria or poisons are first disseminated through the systemic rather than through the portal circulation, the specialized defensive hepatic endothelium, the stellate cells of Kupffer, are found to play the leading part in phagocytosis and defense.

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1. Brötz: Frankfurt. Ztschr. f. Path., 1909, iii, 931.
2. Schilling: Virchows Arch f. path. Anat., 1909, cxcvi, 1.
3. Oppenheimer: Virchows Arch. f. path. Anat., 1909, cxciv (Beiheft), 254.
4. Nathan: La cellule de Kupffer, Paris, 1908.

## ALCOHOLISM AND THE GERMINATIVE CELLS

Recently we commented in these columns on the observations made by Fahr concerning the anatomic changes resulting from chronic alcoholism, which were found to be much less marked in regard to renal and vascular lesions than has been believed by most of us; although fatty changes in the liver and chronic meningeal thickening were found very frequently in the bodies of hard drinkers. An interesting supplement to the above observations is furnished by E. Bertholet[1] of Lausanne, who has systematically examined the testicles of alcoholics coming to autopsy.

It has long been believed, on the basis of clinical experience and statistical evidence, that paternal alcoholism may have a considerable and deleterious influence on the offspring, Forel in particular having contended that alcoholism injures the germinative cells; he supported this view with statistics from asylums for the insane and epileptic, and gave to the alteration in the germinative cells the title of *"blastophtorie."* Not only are nervous and mental defects attributed to paternal alcoholism, but also the collected histories of congenital cardiovascular anomalies show the presence of this influence to a degree that cannot well be dismissed as fortuitous. Even with experimental animals it has been found that chronic alcohol intoxication of the male leads to the production of defective offspring, according to several observers.

Until now, however, the influence of alcoholism on the germ cells has had little consideration from the standpoint of pathologic anatomy, although in 1898 Simmonds of Hamburg reported that in 60 per cent. of chronic alcoholics azoospermia was present. Bertholet examined the testicles of seventy-five men whose history as to alcohol was known, of whom thirty-nine were habitual users of alcohol in large amounts, and most of whom died before the fiftieth year. In all but two of these thirty-nine alcoholics a more or less marked atrophy of the parenchymatous elements and an increase in the interstitial connective tissue were found, these changes differing from the ordinary senile involution. Especially marked were the changes in the testicles of men who died of alcoholic cirrhosis; this coincidence of hepatic and testicular fibrosis has been observed previously by others, who, however, did not connect the changes in the testicles with the alcoholism. In proportion to the degree of atrophy present the process of spermatogenesis is defective, often with total absence of spermatozoa, or with abnormalities in the changes leading up to the formation of the spermatozoa. While chronic diseases, especially cancer cachexia, may cause similar changes, yet the frequency and advanced degree of testicular atrophy is characteristic of alcoholism. The relation of these microscopic changes to the recognized influence of paternal alcoholism on the offspring is evident.

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1. Bertholet, Ed.: Centr. f. allg. Pathol., 1909, xx, 1062.

## HARMONY AND HONESTY

In the Correspondence Department of this issue is a letter that every physician and pharmacist should "read, mark, learn and inwardly digest." Coming from the chairman of the Committee on Revision of the U. S. Pharmacopeia, its very source would command attention, even if the excellence of the suggestions it contains did not do so. As Professor Remington says, the nostrum evil—that *bête noire* of both professions—"is being controlled to an extent that few physicians realize." The medical profession probably fails to appreciate the very great changes that have taken place in the nostrum world within the past half-decade. Coincident with a changed attitude on the part of the majority of pharmacists toward "patent medicines" has been as great a change on the part of physicians toward the "ethical proprietaries." Such changes augur well for the future of pharmacy and medicine. We may look hopefully forward to the time when the physician shall no longer be a prescriber of ready-made mixtures, but a writer of *real* prescriptions and when the druggist shall cease being a retailer of "patent medicines" and become a scientific compounder of official drugs. This professional millennium, however, will not be reached by ignoring the "patent medicine" and "proprietary" evil, which, like a festering sore in the pharmaceutical-medical body, causes both local irritation and systemic weakness. Each profession must attack the problem squarely and openly, and, recognizing the seriousness of the disease, be willing to apply heroic treatment. By all means, let physicians and pharmacists work together in harmony and good fellowship, and let it be the harmony that comes from a unity and honesty of purpose and a common desire to render greater service to those who are dependent on both professions—the sick and suffering public.

## THE POWER OF PUBLIC OPINION

For some time the better class of metropolitan newspapers, with but few exceptions, have excluded the advertisements of the notorious quacks that infest the larger cities of the country. One of the exceptions was the New York *World*—possibly the greatest paper which continued to carry that class of advertising. Now we learn that the *World* has closed its columns to the quacks, and the reason for this step is given by *Printer's Ink:* "The *World* had no fine-spun moral motives in crowding several of the 'old doctors' out in the cold; it appreciated to the full the $30,000 a year which this publicity brought to its till. Yet the manager had had occasion to observe quite frequently that the 'big' advertisers of established character and clean reputation disliked being put into the company of the 'doctors' ' copy." In view of this attitude on the part of the decent advertiser, those in control of the *World* "have wondered whether they might not actually make money by passing up this $30,000." They have evidently decided they might. The effect of this changed policy on newspapers in general is discussed by *Printer's Ink:* "When a powerful and matter-of-fact journal like the *World* . . . decides that it's *poor business* to harbor the 'doctors' longer, other newspapers are likely to ask themselves similar questions and wonder whether they might not actually make more money if they should follow suit." To attempt to moralize on this matter would be fatal. Enough that a step—a big step—toward decency has been made. We can at least congratulate ourselves that an enlightened public opinion has brought about a state of affairs where newspapers find that it actually pays—pays in hard, cold cash—to reject indecent and fraudulent advertising. Even the most pessimistic must acknowledge that conditions are improving.

## AUTOMOBILE DATA

In connection with the fourth Automobile Number of The Journal, that of April 9 next, a list of questions will be found on advertising page 47 of this issue. We hope that physicians, both those who use horses and those who use automobiles, will reply in sufficient numbers to make it possible to draw deductions of practical value from the answers. The length of time the automobile has been in use justifies the attempt to compare its *real cost* with that of the horse and to deduce from the experience of many some definite conclusions in regard to the worth of the automobile as equipment, as well as its value as a luxury. It is to ascertain "real cost" and not temporary expense that Questions 17 and 18 have been framed. Answers will be of value somewhat in proportion to the years covered by the figures. The fault with too many statements of expense is that they cover only running expenses and repairs and lose sight of the fact that the car may endure only one or two more years of service. A considerable portion of the original cost, therefore, has to be added to such an expense account. With other cars, however, the outlay for repair and correction of defects has been heavy in the first year, and then the machine is good for several years' excellent service with little necessity for renewal. In such a case it would be unfair to make so high an allowance for depreciation. All these things must be duly considered if dependable deductions are to be made. The information in regard to the yearly income, mileage, etc., is necessary as a basis for comparison, since what one man can afford is no guide to another unless the circumstances of the two be compared. On request these answers will be considered confidential and, if a tabulation is published, the name and address will be omitted. We shall appreciate the cooperation of our readers and we hope that many of them will fill out the blank and mail it to us at once. This is requested for the information of the profession, and the results will be of value in proportion as the response is general.

**A Noted Japanese Physician.**—The recent death of Dr. I. Ogata, at Osaka, Japan, at the age of 67, removes one of Japan's most eminent men, a Christian statesman of much influence, and a pioneer among Japanese students of Western medicine. He was one of the first to go abroad, studying medicine in Holland. He was appointed court physician by the new imperial government on its accession, and together with his father, who was also a physician, was the founder of the medical department of the Japanese army. He founded a medical college and hospital at Osaka, was one of the founders of the Japanese Red Cross Society, and was active in other directions in the larger affairs of Japan.

# Medical News

## ALABAMA

**Society Meeting.**—At the annual meeting of Jefferson County Medical Society in Birmingham, the following officers were elected: President, Dr. George W. Brown, Pratt City; vice-president, Dr. Edgeworth S. Casey; secretary-treasurer, Dr. Charles E. Dowman, and censor, Dr. Thomas D. Parke (reelected), all of Birmingham.

**Personal.**—Dr. Philip Van B. Speir, Furman, has been elected health officer of Wilcox county, vice Dr. Raphael O. Semmes, Rock West, Camden, deceased.——Dr. Thomas R. Barnes, Russellville, physician to the Foster-Craighton Gould Company at Rockwood, has resigned and Dr. Walter A. Gresham, Russellville, has succeeded him.——Dr. Walter H. Bell, Birmingham, has been made medical director, and Dr. Edmond Prince, assistant surgeon of the Iron Ore Accident and Health Insurance Company.

## ARKANSAS

**State Society Meeting.**—The thirty-third annual session of the Arkansas Medical Society will be held in Little Rock, May 3-6, 1910, under the presidency of Dr. James H. Lenow, Little Rock. The general headquarters will be at the Marion Hotel.

**State Board Will Appeal.**—Chancellor Martineau, on February 5, is said to have made permanent the temporary injunction which he had issued against the State Board of Medical Examiners, preventing the board from revoking the license of Dr. A. S. McCrary, Little Rock, because he had publicly advertised that he would treat chronic diseases and cancer. The decision declares that part of act 219, passed by the last legislature, is unconstitutional and void. The case will be appealed to the supreme court for a correct decision.

## CALIFORNIA

**Fined Doctors Appeal.**—Drs. Daniel E. Osborn, Frank C. Newton, and J. H. O'Connor, physicians of St. Helena, who refused to pay the new town license tax of $3 a quarter for the right to practice their profession and were fined $10 in each case with the alternative of five days' imprisonment, have been granted a stay of execution to permit the filing of the necessary motions for appeal.

**Personal.**—Dr. Luther M. Powers has been unanimously reappointed health officer of Los Angeles.——Dr. Guy E. Manning has been reappointed a member of the San Francisco Board of Health.——Dr. Herbert C. Moffitt has been appointed vice-president; and Dr. William C. Vorsanger, secretary, and Drs. Harry M. Sherman and George H. Evans have been elected members of the executive committee of the San Francisco Association for the Study and Prevention of Tuberculosis.

**Staff Elected.**—At the annual meeting of the Children's Hospital, San Francisco, the following staff was elected: Visiting staff—Drs. Lucy M. F. Wanzer, Harry M. Sherman, Emma Merritt, William E. Hopkins, Charles A. von Hoffman, Beverly MacMonagle, William B. Lewitt, William Kerr, Adelaide Brown, Frances R. Sprague, Edward K. Hopkins, Samuel J. Hunkin, Alice M. Woods, Howard Morrow, and R. Leona Ash; assistant visiting staff—Drs. James T. Watkins, George J. McChesney, Emma K. Willits, Tracy G. Russell, August J. Lartigau, and Frederick Lewitt; anesthetist, Dr. Mary E. Botsford, and assistant anesthetist, Dr. Mary Murphy.

**At Variance with the Law.**—The State Board of Medical Examiners, through its attorney, has taken a hand in the prosecution of a Chinese doctor, who was arrested two months ago for practicing without a state license and was convicted and fined $100. Appeal was taken. He was again arrested, January 27, charged with having practiced since conviction, and the following morning was arrested for the third time. The defendant claims that he does not practice medicine but merely sells herbs.——John Kellett, Oakland, is said to have been found guilty, February 2, of violating a state law by selling a medicinal preparation, containing more than two grains of opium to the ounce, and fined $100. He was released on bonds, pending an appeal of the case.

**Hospital Notes.**—The directors of the Southern Pacific Railroad have appropriated $150,000 for a west wing to the company's hospital. The new wing will provide 100 additional beds, and the fourth floor will be devoted to private rooms.——The St. Francis Hospital Company, Eureka, has transferred its business and building to the Sequoia Hospital Company, and the patients have already been moved to their new quarters.——At the annual meeting of Fabiola Hospital Association, Oakland, February 4, it was reported that 1,590 patients had been treated during the year, 1,400 of whom were admitted to the hospital. The total receipts for the year were $93,903.48 and the disbursements were $93,877.13, leaving a balance on hand of $26.86.——Ramona Hospital, San Bernardino, was opened February 1, with Dr. Henry W. Mills as chief of staff.

## GEORGIA

**Personal.**—A patient crazed with liquor attempted to kill Dr. Garnett W. Quillian, an ambulance surgeon of Atlanta, January 29. Dr. Quillian escaped uninjured.——Dr. James M. Guess, Centerville, is reported to be seriously ill.——Dr. R. B. Durrett has been elected physician to the Atlanta city prison, vice Dr. M. C. Martin, who declined to serve.

**Fire at Sanitarium.**—The bravery of nurses in Park View Sanitarium, a private hospital in Savannah, probably prevented serious casualty February 7. A wing of the hospital caught fire, the 18 patients were removed, and after their removal the nurses fought the fire with the apparatus in the hospital until the arrival of the fire department.

## IOWA

**Visiting Nurse for Dubuque.**—A Visiting Nurse Association was organized at Dubuque, January 27. Dr. James R. Guthrie presided at the meeting, and the address was delivered by Miss Harriett Fulmer, head of the Visiting Nurses Association of Chicago.

**Buchanan County Physicians Elect.**—The annual meeting of Buchanan County Medical Society was held in Independence, February 3, and the following officers were elected: Dr. George W. Tapper, Rowley, president; Dr. Hiram H. Hunt, Hazleton, vice-president; Dr. Benjamin B. Sells, Independence, secretary-treasurer, and Dr. Joseph C. Ohlmacher, Independence, censor (reelected).

**Personal.**—Dr. George W. Coit, Missouri Valley, is seriously ill with pneumonia.——Dr. Jennie G. Ghrist, Ames, and Dr. and Mrs. David W. Smouse, Des Moines, sailed from San Francisco, February 5, on a trip around the world.——Dr. Henry J. Prentiss has been appointed a member of the Greater University Committee of the State University, Iowa City.——Dr. George E. Crawford, Cedar Rapids, who was operated on last month, is reported to be convalescent.——Dr. Norman E. Mighell, Marshalltown, who has been seriously ill with septicemia, due to an operation wound, is reported to be convalescent.——Dr. Everett E. Richardson, Webster City, has been appointed a member of the State Board of Health, vice Dr. Alexander M. Linn, Des Moines.——Dr. Joseph J. Flannery, Des Moines, is reported to be seriously ill with nephritis in Mercy Hospital.——Dr. Charles C. Shope, Des Moines, has been appointed physician of Polk county.——Dr. Charles L. Marston, Mason City, representative from Cerro Gordo county, while making a professional call near Plymouth in a severe snow storm, was almost overcome with the cold. One foot was severely frozen.——Dr. Edward L. Martindale has been appointed postmaster of Clinton, and will assume the duties of his office April 1.——Dr. Mamie A. Coveny, Clinton, is reported to be ill with appendicitis in Maryville, Mo.——Dr. Louis A. Thomas, formerly secretary of the State Board of Health, was made acting secretary of the Des Moines Board of Health, February 4.——Dr. Mathew N. Voldeng, superintendent of the State Hospital, Cherokee, was designated by the board of control for another term of four years, February 5.

## MARYLAND

**Registration of Midwives.**—Dr. Thomas A. Ashby has introduced a bill in the House of Delegates providing for the registration of midwives, which has been approved by a committee of the Medical and Chirurgical Faculty of Maryland.

**Work for the Insane.**—Patients at the Shepherd and Enoch Pratt Hospital for the Insane have made a motor boat which is ready for launching. The patients are also instructed in weaving, basket, metal and leather work, bookbinding, needlework and drawing. Several patients have shown distinct mental improvement under the stimulus of occupation.

**Personal.**—Dr. John H. Wade, Boonsboro, has been nominated as fish commissioner of the western shore.——Dr. Frank T. Turner, Black Horse, has been ill for several weeks with rheumatism.——Dr. George Wells, Annapolis, clerk of the Anne Arundel County Circuit Court, who has been ill for a month, has recovered.——Dr. Thomas Z. Offutt, Granite, is said to be ill with pneumonia.

**Optometry Board.**—Dr. Thomas A. Ashby has introduced in the house of delegates a bill to create a state board of examination in optometry. It provides for a board of five to be appointed by the governor, and authorized, after examination, to issue certificates to practice optometry. The board has power to revoke licenses on conviction of crime, habitual drunkenness and incompetency.

**To Improve Sanitary Conditions.**—A bill has been prepared by the Confederated Improvement Associations of Baltimore county, designed to better sanitary conditions in the state. By it all residents are required to keep their premises in sanitary condition, especially with reference to the contamination of streams. Sanitary officers will be provided to enforce the law, and failure to comply with their orders will render the offender liable to a fine of from $10 to $50.

**State Sanatorium.**—Many members of the state legislature visited the Maryland State Tuberculosis Sanatorium, Sabillasville, to inspect the condition and needs of the institution. The legislature will be asked to appropriate $100,000 for maintenance of the institution and $100,000 for buildings. There are now 200 patients. The cost of maintenance of patients in the institution is 95 cents per day each, or $6.65 per week, which compares favorably with the average, $10.47.

**State Care of the Insane.**—A meeting was held in the chamber of the House of Delegates, February 9, to discuss state care of the insane. The governor presided. The discussion was opened by Dr. Hugh H. Young, president of the lunacy commission. Dr. Albert W. Ferris of the New York Lunacy Commission, spoke on "Economics in the State Care of the Insane;" Mr. William L. Barbury, Baltimore, on the "State Care from the Viewpoint of the Taxpayer;" Dr. Joshua W. Hering, Westminster, comptroller of the state, on "Financial Questions Involved in State Care;" Dr. Edward M. Brush, superintendent of the Shepherd and Enoch Pratt Hospital on the "Great Possibilities of Scientific Treatment Under State Care," and Attorney General Isaac L. Straus on the "Duty of the State to Provide for the Dependent Insane."

### Baltimore

**Violators of Pure Food Law Fined.**—Two drug firms were found guilty on January 29 of violating the pure food and drug law by sending out misbranded laudanum and headache tablets, and fined.

**Concert for Widows and Orphans.**—Concerts were given by the Ladies Auxiliary of the Medical and Chirurgical Faculty of Maryland, February 2 and 3, in Medical Hall, for the benefit of the widows and orphans of physicians.

**Personal.**—Dr. George L. Brown has been appointed assistant research worker of the Phipps Tuberculosis Dispensary. ——Dr. Max Kunstler, accused of selling cocain in violation of the ordinance was acquitted in the criminal court, February 2.

**Ask Further Appropriation.**—The State Board of Health has decided to ask the hygiene commission to recommend an increase in the appropriation for the relief of tuberculosis from $5,000 to $10,000, and also to ask the legislature to make provision for the publication of a monthly bulletin.

**Book and Journal Club Meet.**—The annual meeting of the Book and Journal Club of the Medical and Chirurgical Faculty of Maryland was held February 10. There are 83 members, each of whom pays $5 dues, this money being used to increase the library. The subscriptions and balance amount to $518. Historical work is to be fostered by the club; three meetings have been arranged for this season.

**Report of the Eudowood Hospital.**—The annual report of the Eudowood Hospital for Consumptives shows that 237 patients were under treatment during the year, and that the cost of each patient was 84 1/10 cents per day. The expenses were $31,000, or $10,000 in excess of the receipts. Of the 160 patients discharged from the hospital during the year, 66 per cent. are reported well with full earning capacity, and 77 per cent. well and doing work of some sort.

**The Crusade Against Consumption.**—A billboard crusade has been commenced against consumption by the Maryland Association for the Prevention and Relief of Tuberculosis. Two hundred and fifty posters, seven by nine feet are to be placed around the city in conspicuous places. These are illustrated, and contain the following admonition:

> Bad air, overwork, late hours, intemperance, and other excesses lead to consumption.
> Fresh air, good food, sunshine and life in the country cure it.
> Phthisis can be prevented.
> A careless consumptive is dangerous to his family.

**Hospital News.**—The Hospital for the Women of Maryland was reopened February 12, with a public reception. It has been completely remodeled and enlarged at a cost of $80,000, and now has provision for 75 patients.——Performances were given in two theaters in Baltimore, February 7, one for the benefit of the Eye, Ear and Throat Charity Hospital, and the other for the benefit of the Mercy Hospital, connected with the College of Physicians and Surgeons.——At the annual meeting of the trustees of Johns Hopkins Hospital, February 8, the superintendent reported that during the year 4,782 patients were admitted to the hospital, and 4,776 were discharged. There were 309 patients in the hospital Feb. 1, 1910. The average mortality for the year was 5.62 per cent. of the cases treated, and during the previous year, it was 5.35 per cent.——A campaign has been started to raise a fund of $100,000 for buildings for the South Baltimore General Hospital, to be erected on the site of the South Baltimore Eye, Ear, Nose and Throat Hospital.——Dr. Philip Morrill reports that the Sydenham City Hospital for Contagious Diseases is unable to handle all cases requiring treatment there. Only 28 patients can be accommodated, and provision is made for only diphtheria and scarlet fever.——By the will of the late Mrs. Gilman, widow of the late president emeritus of Johns Hopkins University, $5,000 is left in trust to the university for the erection of a memorial to her husband.

## MASSACHUSETTS

**Meeting of Boards of Health.**—At the annual meeting of the Massachusetts Association of Boards of Health, held in Boston, January 27, the following officers were reelected: Dr. Henry P. Walcott, Cambridge, president; Dr. Samuel H. Durgin, Boston, and C. B. Chapin, Providence, vice-presidents; Dr. James C. Coffee, Worcester, secretary, and J. B. Field, Lowell, treasurer. Dr. David D. Brough advocated registration for the purpose of control of laryngeal and pulmonary tuberculosis. Dr. Mark W. Richardson read a paper on "Ophthalmia Neonatorum," and Simon C. Keith, Jr., gave an address on an improved form of bubbling drinking fountains.

**Money for Charities.**—By the will of Mrs. H. M. Smith, Somerville, $5,000 is bequeathed to the Eliot Hospital, Manchester, N. H.; $20,000 to the same institution to build a nurses' home, and the income of $15,000 for the support of free beds.——By the distribution of the residue of the estate of George William Boyd, Boston, the Boston Floating Hospital receives $5,000; the Boston Dispensary, $1,000; Carney Hospital, South Boston, $5,000; the Free Hospital for Women, $1,000; Infants' Hospital, $1,000; Massachusetts Charitable Eye and Ear Infirmary, $5,000; Massachusetts General Hospital, $2,000, and the New England Deaconess' Association, for the maintenance of a free bed in the hospital, $5,000.——Boston Floating Hospital receives a bequest of $1,000 from the estate of Marion F. Lord, Wells, Maine, and the Newton Hospital receives a similar amount.

## MINNESOTA

**Personal.**—The Minneapolis, St. Paul and Sault Ste. Marie Railway, which has recently taken over the Wisconsin Central Railroad, has reorganized its surgical department and has placed in charge Dr. John H. Rishmiller, Minneapolis, as chief surgeon.——Dr. Henry M. Bracken, St. Paul, has been reappointed a member of the State Board of Health, and the board has reelected him its secretary.

**Medical Society Elections.**—At the annual meeting of Washington County Medical Society, Dr. Wade R. Humphrey, Stillwater, was elected president; Drs. George H. Burfield, Afton, and Demeter Kalinoff, Stillwater, vice-presidents; Dr. Frank G. Landeen, Stillwater, secretary-treasurer; Dr. Thomas C. Clark, Stillwater, censor; and Dr. Ernest E. Wells, Stillwater, delegate to the state society.——At the annual meeting of Blue Earth County Medical Society, Dr. Edward W. Benham, Mankato, was elected president; Dr. Henry B. Grimes, Lake Crystal, vice-president; Dr. Thomas C. Kelly, Mankato, secretary; Dr. Lida Osborn, Mankato, treasurer; Dr. John H. James, Mankato, delegate to the state society, and Dr. John Williams, Lake Crystal, alternate.——St. Louis County Medical Society, at its annual meeting in Duluth, elected the following officers: President, Dr. Robert Graham, Duluth; Drs. Nicholas L. Linneman, Duluth, and Charles W. Bray, Biwabik, vice-presidents; Dr. Frank A. Grawn, Duluth, secretary-treasurer; Drs. Samuel H. Boyer, Frank A. Grawn, and Charles F. McComb, all of Duluth, delegates to the state society, and Drs. John B. Weston, Asher C. Taylor, and Edward L. Tuohy, all of Duluth, alternates, and Drs. Theodore L. Chapman, Charles A. Stewart, and William H. Magie, all of Duluth, censors.——At the thirtieth annual meeting of the Minnesota Valley Medical Association, held in Mankato, the following officers were elected: President, Dr. John W. Andrews; vice-presidents, Drs. Lida Osborn and Carl J. Holman; secretary, Dr. Adolph G. Liedloff (reelected), all of Mankato, and treasurer, Dr. George F. Merritt, St. Peter.——At the annual meeting of the Red River Valley Medical Association, held in Crookston, the following officers were elected: President, Dr. Theodore Bratrud, Warren; vice-president, Dr. George A. Morley, Crookston; secretary-treasurer, Dr. Henry E. Nelson, Crookston; censors, Drs. Henry C. Stuhr, Argyle; Jacob S. Kjelland, Crookston, and Ole H. Olson, Erskine; delegate to the state society, Dr. Charles E. Dampier, Crookston, and alternate, Dr. George S. Wattam, Warren.

## MISSOURI

### St. Louis

**Donation to Endowment Fund.**—The St. Louis Surgical Society has donated $1,000 to the Elisha Hall Gregory Endowment Fund of the St. Louis Library Association.

**Chiropractic Acquitted.**—W. J. Wundfacek, charged with practicing medicine without a license and prosecuted by the State Board of Health, is said to have been acquitted January 20, the successful contention of the defense being that chiropractors use no medicine and therefore do not come within the Missouri statutes regarding unlicensed physicians.

## NEBRASKA

**Change Date of State Society Meeting.**—The trustees of the Nebraska State Medical Association have changed the date of the meeting to May 10-12.

**Medical Corps Banquet.**—The Lincoln Hospital Corps, Nebraska National Guard, gave a banquet, January 27, at which the governor and adjutant general were guests of honor.

**Consumption Camp Moves.**—By order of the State Board of Health. The Double Red Cross Consumption Camp (designated state sanatorium), Lincoln, of which Dr. Julius H. Tyndale is medical director, has been moved to grounds adjoining Sunlight Sanatorium to the north on Garfield street.

**Personal.**—Dr. Henry J. Lehnhoff, Lincoln, has sailed for Europe.——Dr. Claude C. Sackett, Laurel, was operated on in Sioux City, Iowa, for appendicitis, recently.——Drs. Henry B. Lemere, Frederick W. Lake and Frank E. Coulter, the medical advisory board of Douglas County Hospital, Omaha, have resigned.——Dr. Harold Gifford has been persuaded to give up his intention of resigning as associate dean of the College of Medicine of the University of Nebraska.

**Medical Societies.**—Elkhorn Valley Medical Association, at its fourteenth annual meeting, held in Norfolk, January 19, elected the following officers: President, Dr. Armenag B. Tashjean, Norfolk; vice-presidents, Drs. Czar C. Johnson, Creighton, and William R. Peters, Stanton; secretary, Dr. J. H. Mackay, Norfolk, and treasurer, Dr. Walter H. Pilger, Norfolk.——Madison County Medical Association, at its annual meeting in Norfolk, elected the following officers: Dr. W. H. H. Hagey, Norfolk, president; Dr. Walter H. Pilger, Norfolk, secretary-treasurer; Dr. J. H. Mackay, Norfolk, delegate to the state association, and Drs. Francis A. Long, Madison, Francis A. Bryant, Norfolk, and Frank L. Frink, Newman Grove, censors.——Clay County Medical Association, at its annual meeting, held in Clay Center, January 14, elected Dr. J. Oscar Latta, Clay Center, president; Dr. Peter G. Grimm, Edgar, vice-president, and Dr. Adam R. Ray, Fairfield, secretary-treasurer.

## NEW YORK

**Medical Societies.**—On January 20, the Lyons Medical Society was organized with the following officers: President, Dr. Myron E. Carmer; vice-president, Dr. Andrew F. Sheldon; secretary, Dr. D. DeForest Cole, and treasurer, Dr. Major A. Veeder.——At the annual meeting of the Associated Physicians of Long Island, January 29, the following officers were elected: President, Dr. Thomas R. French, Brooklyn; vice-presidents, Drs. Frank Overton, Patchogue; William B. Brinsmade, Brooklyn, and George K. Meynen, Jamaica; secretary, Dr. James C. Hancock, Brooklyn, and treasurer, Dr. Charles B. Bacon, Blackwell's Island.

**Death Rate Decreases.**—Dr. Eugene H. Porter, State Commissioner of Health, reports that during the year 1909 there were 139,783 deaths; based on an estimated population of 8,699,643 this shows the rate per thousand of population to have been 16.1 as compared with 16.3 for 1908. There were 200,865 births reported which is 2,294 less than the number reported during 1908. The drop in the birth rate is attributed to the decrease in the number of marriages; there were only about 80,000 as compared with 92,421 for 1908. The decrease in the number of marriages is attributed to the new marriage license law which went into effect in 1909.

**To Prevent Lunacy.**—An amendment to the Greater New York Charter has been introduced into the Legislature in relation to the treatment of public intoxication and inebriety. Dr. Albert W. Ferris, president of the State Commission in Lunacy, states that next to heredity, alcoholic intoxicants are the most potent cause of insanity. Rosanoff has shown that in the State of New York 28.9 per cent. of the male patients owe their insanity to alcohol. In a study of 961 cases of insanity Dr. Mabon of the Manhattan State Hospital found that alcohol alone was the cause of mental impairment in 40 per cent. of the men and in more than 25 per cent. of the women. This made it obvious that the state, or at least large cities, should make special efforts to provide institutions for the treatment of inebriety. Such institutions would become the centers for the dissemination of truths regarding the great dangers of alcoholism.

**Regulation of Medical Expert Testimony.**—This bill was drawn up by joint committees of the New York State Bar Association, the Medical Society of the State of New York, the Homeopathic Medical Society of the State, the New York Academy of Medicine and the Society of Medical Jurisprudence. It provides that the judges of the appellate division shall appoint not less than 10 nor more than 120 physicians in each judicial district, any of whom may be called as medical or surgical witnesses by the trial court or by any party to any civil or criminal action in any of the courts of this state, and when so called shall testify and be subject to full examination and cross-examination as are other witnesses. Such examination is to include an examination as to their competency. Any designation may at any time be revoked without notice or cause shown, and any vacancy may at any time be filled by the judges sitting in the appellate division. When so directed by the trial court, witnesses thus called shall receive for their services and attendance only such sums as the trial judge may allow, to be at once paid by the treasurer or other fiscal officer of the county in which the trial is had. The act declares that it shall not be construed as limiting the rights of parties to call other medical expert witnesses as heretofore.

### New York City

**To Prevent Crime.**—A plan has been worked out to erect a hospital where children from the Childrens' Court may be examined for mental and physical defects and treated either medically or surgically as the case demands. This institution is the result of the belief that many mental and moral infirmities are the result of physical defects and an expert investigation will be made of all cases of children under 16 years of age who come before the Childrens' Court. The cost it is said will amount to $1,000,000 and Mrs. W. K. Vanderbilt will contribute nearly the entire amount.

**Decision in Favor of Pharmacy Board.**—An action was recently brought against a department store to collect penalties of $25,000 each for the sale of iodin, camphor and arnica, which were sold to a representative of the State Board of Pharmacy by a clerk in the absence of the registered pharmacist in charge. The court has ruled that the drugs in question are medicines within the meaning of the pharmacy law prohibiting the sale of medicines or poisons except under the supervision of a licensed pharmacist. The court also holds that the right of the state to regulate the sale of drugs and medicines is not confined to poisons but even covers household remedies, which are harmless if properly prepared.

**Staff for New Dispensary.**—The new dispensary of the German Hospital, Brooklyn, was opened January 12. The following is the medical staff of the dispensary: Dr. George Bürkard, gynecology; Dr. Otto Niedner, medicine; Drs. Carl Fulda and Russell S. Fowler, surgery; Dr. Robert L. Moorhead, ear, nose and throat; Dr. George Mueller, eye; and Drs. Henry F. Adams and Henry E. B. Meyer, *x*-ray examinations.

**Plan Hungarian Hospital.**—A meeting of the Hungarian Hospital Association was held recently where it was decided to collect funds all over the country for the purpose of erecting a modern hospital in this city. Among the officers of the association are Dr. Arpad G. Gerster and Prof. M. E. Pupin of Columbia University.

**The Year at Stony Wold.**—At the annual meeting of the trustees of Stony Wold Sanatorium it was announced that the institution had just completed its most successful year.

Not only was the highest percentage of cures attained but the maintenance of each patient was reduced 16 cents a day. Bequests amounting to $20,000 were announced, $5,000 from the estate of Miss Martha Potter, $5,000 from the estate of Mrs. Frederick R. Halsey, and $10,000 left by Mrs. Gardner Wetherbee. The completion of the $75,000 chapel, the gift of Miss Blanche Potter, was announced. The auxiliaries increased the annual income by $26,200. An open-air school has been established for girls ranging from twelve to fifteen years of age and for boys under ten.

**Gifts to Hospitals.**—Mount Sinai Hospital has refused to accede to the conditions of the will of Louis A. Heinsheimer which was filed in January, 1909, and will not be a beneficiary of the bequest of $1,000,000 left to Hebrew Charities. The object of the testator was that six or more of the Hebrew Charities should form a consolidation for the collection and distribution of funds. The Hebrew Orphan Asylum also refused to combine with the other institutions.——Mrs. Anna Woerishoffer has given $100,000 to the German Hospital and Dispensary for a children's division on condition that it shall be begun within two years and shall be named after Dr. Abraham Jacobi.——In honor of his seventieth birthday August Zinsser has received $5,000 from ten men and one woman with which to endow a bed in the hospital to bear his name.——The will of John Stemme includes the following bequests: German Hospital and Dispensary, $10,000; and St. Mark's Hospital, St. Francis Hospital, Montefiore Home, Mount Sinai Hospital, German Poliklinik, Isabella Home, and German Hospital Society of Brooklyn, $5,000 each.——The will of Maria C. Tailer bequeathes $25,000 to the New York University as a memorial endowment fund to William H. Tailer for the benefit of the dispensary and medical college. This is the first gift received for the endowment of the free clinic. An endowment of $100,000 is needed in order to give an income sufficient to supply the drugs given to the patients.——Seney Hospital is twenty-two years old and 1909 was its most prosperous year, 10,610 patients having been cared for. Of the 51,580 days of treatment given in the wards and rooms 31,800 were free. Of the patients 238 died. From all sources the hospital received during the year $115,351.95, an increase of $12,648.15 over 1908. The endowment fund was increased by $48,276.65, bringing it up to a total of $814,241.01.

## NEW HAMPSHIRE

**Personal.**—Dr. Wallis D. Walker, Portsmouth, has been appointed medical referee of Rockingham county, vice Dr. Arthur J. Lance, Portsmouth, resigned.

**Society Meeting.**—The Portsmouth Medical Society held its annual meeting, February 4, and elected the following officers: President, Dr. Herbert L. Taylor; secretary, Dr. John H. Neal; treasurer, Dr. Mark E. Scott; and executive committee, Drs. John J. Berry, Fred S. Towle and Arthur C. Heffenger.

**Sanatorium Staff Reorganized.**—The staff of Pembroke Sanatorium for the Treatment of Tuberculosis was reorganized by the appointment of the following members: Drs. Frank W. Grafton, Oscar B. Gilbert, Ralph E. Gallinger, Pearl T. Haskell, Sibley G. Morrill, William R. Varick, Arthur K. Day, Marion L. Bugbee, Charles P. Bancroft, Charles H. Cook, Chauncey Adams, W. Preston Beauclerk, Robert J. Graves and Henry H. Amsden, all of Concord, and Clarence E. Butterfield, Suncook. The sanatorium has recently received a donation of $2,300.

## NORTH CAROLINA

**Antituberculosis Association Organized.**—The Mecklenburg County Antituberculosis Association was organized at Charlotte February 1. The meeting was presided over by Dr. Andrew J. Crowell, Charlotte, and Dr. Charles A. Julian, Thomasville, secretary of the state organization, made an address. Dr. Isaac W. Faison, Charlotte, was elected president; Mr. C. W. Tillett, vice-president, and John Q. Myers, Charlotte, secretary-treasurer.

**Personal.**—Dr. William W. McKenzie, Salisbury, was thrown from his carriage in a runaway accident February 1, fracturing his leg.——Dr. Lewis B. McBrayer, Asheville, has been elected city physician and a member of the city board of health, vice Dr. Carl V. Reynolds, resigned.——Dr. Francis J. Clemenger, Asheville, who has recently returned from abroad, and Dr. William L. Dunn have been elected members of the Asheville Board of Health.

**Hospital Notes.**—Dr. Robert S. Carroll has made a contract for a new fifty-room building as an addition to his sanatorium at Asheville.——The trustees of the State Normal College for Women, Greensboro, have let the contract for the new infirmary authorized by the last legislature, which appropriated $50,000 for this purpose.——Maxton Hospital has been incorporated at Maxton by Drs. Arthur B. Croom, James D. Croom, and Arthur B. Croom, Jr., with a capital stock of $50,000.

**State Sanatorium.**—The State Sanatorium for Tuberculosis, at Montrose, which has been closed for several months on account of making additions, has again been opened for the reception of patients. The institution, for which an appropriation of $30,000 and a grant of 1,000 acres of land was made, is situated on a long sandhill amid the pines, and with the new building, sewage system, water works, etc., is in excellent condition for the work. A charge of one dollar a day is made for each patient. This covers the expense of nursing, board, medicine and lodging.

## OHIO

**Hospital to be Reopened.**—The Good Samaritan Hospital, Sandusky, which was closed in 1893, is now being overhauled, and will be ready for occupancy about March 1.

**State Sanatorium Established.**—The Mount Vernon State Tuberculosis Hospital was formally taken over by the state authorities, January 8. At present the institution can accommodate about fifty.

**Infant Asylum Annex Dedicated.**—The new addition to St. Ann's Infant Asylum and Maternity Hospital, Cleveland, was dedicated with appropriate ceremonies by Bishop Farrelly, February 1. The building, which cost $50,000 and doubles the capacity of the institution, was thrown open to the public all day. In the afternoon a formal reception was held.

**For Tuberculosis Exhibit.**—Dr. Charles O. Probst, secretary of the Ohio State Board of Health, has prepared a bill which will shortly be brought before the general assembly asking for an appropriation of $10,000 to defray the expenses of a traveling antituberculosis exhibit. The board intends to send the exhibit from town to town accompanied by experts. Only those cities and towns will be visited that have not permanent exhibits.

**Personal.**—Dr. John W. Clemmer has been elected health officer of Columbus.——Dr. Thomas M. Sabin has been elected president, and Dr. Frederick K. Smith, secretary of the staff of the Warren City Hospital.——Dr. Henry C. Evans has been appointed physician at the Carnegie Steel Company in the Youngstown district, vice Dr. George S. Peck, resigned.——Dr. Joseph D. Ely, Toledo, announces that he will retire from general practice, April 21. After a period of rest he expects to take up special work.

**Coming State Association Meeting.**—The Academy of Medicine of Toledo and Lucas County has appointed the following committee to make the arrangements for the coming meeting of the Ohio State Medical Association: Drs. Charles N. Smith, George L. Chapman, Jeremiah Metzger, William W. Coldham, Homer H. Heath, Clarence D. Selby, John A. Wright and George M. Todd.——The Business Men's Club of Toledo will keep open house for the benefit of all physicians in attendance at the meeting of the association, which will be held in that city in May.

### Cincinnati

**Personal.**—Dr. Robert W. Stewart has been elected chairman of the board of trustees of the University of Cincinnati.——Dr. Charles S. Rockhill has been appointed physician to the Branch Hospital for Consumptives, vice Dr. Benjamin F. Lyle.——Dr. Frances M. Hollingshead has been appointed clinical assistant in pediatrics in the Medical Department of the University of Cincinnati, vice Dr. Alfred Friedlander, resigned, and Dr. Jesse Southgate has been appointed clinical assistant in ophthalmology.

## OKLAHOMA

**Central Society Meets.**—At the fifteenth annual meeting of the Central Oklahoma Medical Association, held in Enid, January 18, the following officers were elected: President, Dr. Arthur B. Cullum, Hennessey; vice-presidents, Drs. Fred H. Clark, El Reno, and Mahlon A. Kelso, Enid; and secretary-treasurer, Dr. Edwin D. Ebright, Enid.

**Antituberculosis Association Organized.**—The Oklahoma State Association for the Prevention and Cure of Tuberculosis, with headquarters at Enid, was granted a state charter, January 11. The directors are Dr. Franklyn P. Davis, Enid, secretary of the State Board of Medical Examiners, H. B. Shields, Chester Harper, and A. E. Sale, all of Enid. At the meeting for organization, the following officers were elected:

Dr. Joseph M. Postelle, Oklahoma, president; Drs. Eugene O. Barker, Guthrie; M. D. Read, Weatherford; George M. Ransom, Muskogee; G. W. Phillips, Paul's Valley, and W. G. Bradford, Mangum, vice-presidents; and Mrs. M. F. Jones, Chickasha, secretary-treasurer.

## PENNSYLVANIA

**Annual Elections.**—At the annual meeting of the Philadelphia Academy of Surgery, the following officers were elected: President, Dr. Robert G. LeConte; vice-presidents, Drs. Gwilym G. Davis and John H. Gibbon; secretary, Dr. Charles F. Mitchell; treasurer, Dr. James P. Hutchison; and recorder, Dr. John H. Jopson.——At the annual meeting of the Philadelphia Obstetrical Society, the following officers were elected to serve for 1910: President, Dr. Edward P. Davis; vice-presidents, Drs. William R. Nicholson and John H. Girvin; secretary, Dr. Frank C. Hammond; treasurer, Dr. Charles S. Barnes; and curator, Dr. Charles C. Norris.——At the quarterly meeting and dinner of the Philadelphia Medico-Legal Society, January 24, the following officers were elected: President, Dr. Samuel P. Gerhard; vice-presidents, Drs. Lambert Ott and Clarence Loeb; secretary, Dr. William T. Hamilton; treasurer, Dr. George M. D. Peltz; censors, Drs. Francis J. Kelly, James Wolfe and Dr. Louis D. Bauer.

### Philadelphia

**New Chair at the University.**—A gift of $100,000 has been made to the university to endow a chair in the medical school. The name of the donor and the nature of the chair endowed will be announced on University Day, February 22.

**Public Lectures at the College of Physicians.**—The College of Physicians announces a series of public lectures on Great Doctors and Achievements in Medical Research. The first lecture on "The Life and Times of William Harvey, the Discoverer of the Circulation of the Blood," was given by Dr. S. Weir Mitchell, in the College Building, February 16.

**Antituberculosis Society.**—The directors of the Pennsylvania Society for the Prevention of Tuberculosis, February 9, arranged for the immediate publication of *The Fresh-Air Magazine*. Dr. Howard S. Anders, chairman of the legislative committee, read a report on street cleaning which placed Philadelphia in a very unfavorable light. The data of this report were collected from twelve cities.

**Colleagues Honor Dr. Flick.**—Dr. Lawrence F. Flick, who has resigned from the Phipps Institute, was the guest of honor at a dinner at the University Club, February 2. The dinner was attended by all the members of the staff of the institute and by officers of the new and old régime. Dr. Flick was presented with a massive silver loving-cup, bearing the engraved autographs of the members of the staff.

**New Southeast Branch.**—Physicians of the southeastern section of the city have for several years been striving to enroll into the County Medical Society every eligible practitioner, and the outcome of their efforts is announced in the first meeting and the election of the following officers: Chairman, Dr. Max Staller; clerk, Dr. Maurice B. Cooperman, and associate vice-president of the County Medical Society, Dr. Aaron Brav.

**New Milk Law.**—February 5, Dr. Joseph S. Neff, director of Health and Charities, notified the milk trade that the milk act passed by the last legislature for the greater purity of the city's milk supply goes into effect February 7, and that dealers must at once take out licenses issued by the bureau of health. The penalty of dealing in milk without obtaining a license is a fine of $50, or imprisonment of not more than 60 days.

**Gift to College of Physicians.**—The College of Physicians' new building has been relieved of debt by the gift of $75,000 from an unknown donor through Dr. S. Weir Mitchell. This announcement was made at the meeting of the college, February 2, and the following letter read from the donor: "I have the great pleasure of giving to the College of Physicians of Philadelphia $75,000 to relieve it from debt and to leave it free to its honorable usefulness."

**Elections of Officers.**—At the January meeting of the Lebanon Hospital Medical Society, the following officers were elected: President, Dr. Alfred Heineberg; vice-president, Dr. Benjamin L. Singer; secretary, Dr. Abraham D. Halperen; treasurer, Dr. Moris V. Leof, and librarian, Dr. E. J. Goldring. ——At the annual meeting of the Samaritan Medical Society, January 29, the following officers were elected: President, Dr. G. Morton Illman; vice-presidents, Drs. Charles S. Barnes and John Leedom; and secretary and treasurer, Dr. Jesse O. Arnold.

**Meeting of State's Society Committee of Inquiry.**—The committee appointed by the Pennsylvania State Society, at its last meeting to inquire into the charges of mismanagement of hospitals receiving state aid, met February 4, at the College of Physicians to receive suggestions from physicians and others of the best means to correct the abuse, of which complaint was made. Dr. William L. Estes, South Bethlehem, chairman of the meeting, was called away at the beginning of the session, and Dr. H. G. McCormick, Williamsport, presided. The other members of the committee were: Drs. John B. Roberts, Philadelphia; William T. Sharpless, West Chester, and Thomas D. Davis, Pittsburg. There was a long discussion, but no definite conclusion was reached.

**New Location for Free Library.**—Negotiations have been closed for the leasing to the Central Branch of the Free Library, of the old building of the College of Physicians. The lease is for five years, with the privilege of annual renewal until the great central edifice of the city's Free Library System, to be erected on the Parkway between City Hall and Fairmount, is ready for occupancy. The importance of the foregoing statement to general practitioners in the outlying districts of the city is in the legal agreement just made between the Philadelphia County Medical Society and the trustees of the Free Library System by which the old College of Physicans' building ultimately becomes the starting and distributing center for a medical reference section for all physicians in the city through the forty or more branch libraries.

## SOUTH DAKOTA

**Societies Elect Officers.**—At the annual meeting of Aberdeen Medical Society, held January 25, Dr. Daniel Geib, Groton, was elected president; Dr. Burton A. Adams, Bristol, vice-president; Dr. Jesse B. Whiteside, Aberdeen, secretary; Dr. Herman R. Gundermann, Selby, treasurer; and Dr. James D. Jones, Groton, censor (reelected).——At the annual meeting of the Yankton District Medical Association, held in Yankton, January 7, the following officers were elected: President, Dr. James L. Stewart, Spearfish; vice-president, Dr. Edward T. Anderson, Platte; secretary-treasurer, Dr. Leon F. Beall, Irene; censor, Dr. Herman J. G. Koobs, Scotland; and delegates to the state association, Drs. F. Arthur Swezey, Wakonda, and Silas M. Hohf, Yankton.

## TENNESSEE

**Hospital News.**—The organization of the Boyd Tuberculosis Sanatorium Association of Knoxville was perfected January 8. Dr. Henry P. Coile was elected president, and among the incorporators are Drs. William R. Cochran and Henry T. Fisher.——The Armstrong Hospital, Bristol, has been sold to Drs. William R. Rodgers, Nathan H. Reeve, James H. Delaney and Joseph S. Bachman. The institution will accommodate thirty patients.

**Societies Elects Officers.**—At the annual meeting of the Memphis and Shelby County Medical Society, held December 21, Dr. Ernest C. Blackburn was elected president; Dr. J. Wesley Price, vice-president, and Dr. Buford N. Dunavant, secretary-treasurer, all of Memphis.——At the annual meeting of Knox County Medical Society, held in Knoxville, the following officers were elected: President, Dr. John P. Tillery; vice-president, Dr. William Bowen; secretary-treasurer, Dr. Leon L. Sheddan, and censors, Drs. Samuel D. Acuff and William S. Austin, all of Knoxville.——Hamilton County Medical Society, at its annual meeting in Chattanooga, elected Dr. William A. Duncan, president; Dr. James H. Atlee, vice-president (reelected), and Dr. Hiller P. Larimore, secretary-treasurer, all of Chattanooga.

**Personal.**—Dr. Walter J. Miller, Johnson City, has gone to Rochester, Minn., for operation and treatment.——Dr. Henry P. Dulaney, Blountville, has been appointed assistant surgeon of the Mountain Branch of the National Soldiers' Home, Johnson City.——Dr. W. Frank Glenn has been elected chairman of the Nashville Board of Health.——Dr. James B. Murfree, Murfreesboro, is reported to be seriously ill.——Dr. W. Battle Malone, Memphis, has been appointed one of the trustees of the proposed new city hospital for the care of communicable diseases.——Dr. Henry A. Smith has been reelected city physician of Knoxville.——Dr. Philander D. Sims has been reappointed city physician of Chattanooga.——Dr. Max Goltman has succeeded Dr. James L. Andrews as president of the Memphis Board of Health.

Not only was the highest percentage of cures attained but the maintenance of each patient was reduced 16 cents a day. Bequests amounting to $20,000 were announced, $5,000 from the estate of Miss Martha Potter, $5,000 from the estate of Mrs. Frederick R. Halsey, and $10,000 left by Mrs. Gardner Wetherbee. The completion of the $75,000 chapel, the gift of Miss Blanche Potter, was announced. The auxiliaries increased the annual income by $26,200. An open-air school has been established for girls ranging from twelve to fifteen years of age and for boys under ten.

**Gifts to Hospitals.**—Mount Sinai Hospital has refused to accede to the conditions of the will of Louis A. Heinsheimer which was filed in January, 1909, and will not be a beneficiary of the bequest of $1,000,000 left to Hebrew Charities. The object of the testator was that six or more of the Hebrew Charities should form a consolidation for the collection and distribution of funds. The Hebrew Orphan Asylum also refused to combine with the other institutions.——Mrs. Anna Woerishoffer has given $100,000 to the German Hospital and Dispensary for a children's division on condition that it shall be begun within two years and shall be named after Dr. Abraham Jacobi.——In honor of his seventieth birthday August Zinsser has received $5,000 from ten men and one woman with which to endow a bed in the hospital to bear his name.——The will of John Stemme includes the following bequests: German Hospital and Dispensary, $10,000; and St. Mark's Hospital, St. Francis Hospital, Montefiore Home, Mount Sinai Hospital, German *Poliklinik*, Isabella Home, and German Hospital Society of Brooklyn, $5,000 each.——The will of Maria C. Tailer bequeathes $25,000 to the New York University as a memorial endowment fund to William H. Tailer for the benefit of the dispensary and medical college. This is the first gift received for the endowment of the free clinic. An endowment of $100,000 is needed in order to give an income sufficient to supply the drugs given to the patients.——Seney Hospital is twenty-two years old and 1909 was its most prosperous year, 10,610 patients having been cared for. Of the 51,580 days of treatment given in the wards and rooms 31,800 were free. Of the patients 238 died. From all sources the hospital received during the year $115,351.95, an increase of $12,648.15 over 1908. The endowment fund was increased by $48,276.65, bringing it up to a total of $814,241.01.

## NEW HAMPSHIRE

**Personal.**—Dr. Wallis D. Walker, Portsmouth, has been appointed medical referee of Rockingham county, vice Dr. Arthur J. Lance, Portsmouth, resigned.

**Society Meeting.**—The Portsmouth Medical Society held its annual meeting, February 4, and elected the following officers: President, Dr. Herbert L. Taylor; secretary, Dr. John H. Neal; treasurer, Dr. Mark E. Scott; and executive committee, Drs. John J. Berry, Fred S. Towle and Arthur C. Heffenger.

**Sanatorium Staff Reorganized.**—The staff of Pembroke Sanatorium for the Treatment of Tuberculosis was reorganized by the appointment of the following members: Drs. Frank W. Grafton, Oscar B. Gilbert, Ralph E. Gallinger, Pearl T. Haskell, Sibley G. Morrill, William R. Varick, Arthur K. Day, Marion L. Bugbee, Charles P. Bancroft, Charles H. Cook, Chauncey Adams, W. Preston Beauclerk, Robert J. Graves and Henry H. Amsden, all of Concord, and Clarence E. Butterfield, Suncook. The sanatorium has recently received a donation of $2,300.

## NORTH CAROLINA

**Antituberculosis Association Organized.**—The Mecklenburg County Antituberculosis Association was organized at Charlotte February 1. The meeting was presided over by Dr. Andrew J. Crowell, Charlotte, and Dr. Charles A. Julian, Thomasville, secretary of the state organization, made an address. Dr. Isaac W. Faison, Charlotte, was elected president; Mr. C. W. Tillett, vice-president, and John Q. Myers, Charlotte, secretary-treasurer.

**Personal.**—Dr. William W. McKenzie, Salisbury, was thrown from his carriage in a runaway accident February 1, fracturing his leg.——Dr. Lewis B. McBrayer, Asheville, has been elected city physician and a member of the city board of health, vice Dr. Carl V. Reynolds, resigned.——Dr. Francis J. Clemenger, Asheville, who has recently returned from abroad, and Dr. William L. Dunn have been elected members of the Asheville Board of Health.

**Hospital Notes.**—Dr. Robert S. Carroll has made a contract for a new fifty-room building as an addition to his sanatorium at Asheville.——The trustees of the State Normal College for Women, Greensboro, have let the contract for the new infirmary authorized by the last legislature, which appropriated $50,000 for this purpose.——Maxton Hospital has been incorporated at Maxton by Drs. Arthur B. Croom, James D. Croom, and Arthur B. Croom, Jr., with a capital stock of $50,000.

**State Sanatorium.**—The State Sanatorium for Tuberculosis, at Montrose, which has been closed for several months on account of making additions, has again been opened for the reception of patients. The institution, for which an appropriation of $30,000 and a grant of 1,000 acres of land was made, is situated on a long sandhill amid the pines, and with the new building, sewage system, water works, etc., is in excellent condition for the work. A charge of one dollar a day is made for each patient. This covers the expense of nursing, board, medicine and lodging.

## OHIO

**Hospital to be Reopened.**—The Good Samaritan Hospital, Sandusky, which was closed in 1893, is now being overhauled, and will be ready for occupancy about March 1.

**State Sanatorium Established.**—The Mount Vernon State Tuberculosis Hospital was formally taken over by the state authorities, January 8. At present the institution can accommodate about fifty.

**Infant Asylum Annex Dedicated.**—The new addition to St. Ann's Infant Asylum and Maternity Hospital, Cleveland, was dedicated with appropriate ceremonies by Bishop Farrelly, February 1. The building, which cost $50,000 and doubles the capacity of the institution, was thrown open to the public all day. In the afternoon a formal reception was held.

**For Tuberculosis Exhibit.**—Dr. Charles O. Probst, secretary of the Ohio State Board of Health, has prepared a bill which will shortly be brought before the general assembly asking for an appropriation of $10,000 to defray the expenses of a traveling antituberculosis exhibit. The board intends to send the exhibit from town to town accompanied by experts. Only those cities and towns will be visited that have not permanent exhibits.

**Personal.**—Dr. John W. Clemmer has been elected health officer of Columbus.——Dr. Thomas M. Sabin has been elected president, and Dr. Frederick K. Smith, secretary of the staff of the Warren City Hospital.——Dr. Henry C. Evans has been appointed physician at the Carnegie Steel Company in the Youngstown district, vice Dr. George S. Peck, resigned.——Dr. Joseph D. Ely, Toledo, announces that he will retire from general practice, April 21. After a period of rest he expects to take up special work.

**Coming State Association Meeting.**—The Academy of Medicine of Toledo and Lucas County has appointed the following committee to make the arrangements for the coming meeting of the Ohio State Medical Association: Drs. Charles N. Smith, George L. Chapman, Jeremiah Metzger, William W. Coldham, Homer H. Heath, Clarence D. Selby, John A. Wright and George M. Todd.——The Business Men's Club of Toledo will keep open house for the benefit of all physicians in attendance at the meeting of the association, which will be held in that city in May.

### Cincinnati

**Personal.**—Dr. Robert W. Stewart has been elected chairman of the board of trustees of the University of Cincinnati.——Dr. Charles S. Rockhill has been appointed physician to the Branch Hospital for Consumptives, vice Dr. Benjamin F. Lyle.——Dr. Frances M. Hollingshead has been appointed clinical assistant in pediatrics in the Medical Department of the University of Cincinnati, vice Dr. Alfred Friedländer, resigned, and Dr. Jesse Southgate has been appointed clinical assistant in ophthalmology.

## OKLAHOMA

**Central Society Meets.**—At the fifteenth annual meeting of the Central Oklahoma Medical Association, held in Enid, January 18, the following officers were elected: President, Dr. Arthur B. Cullum, Hennessey; vice-presidents, Drs. Fred H. Clark, El Reno, and Mahlon A. Kelso, Enid; and secretary-treasurer, Dr. Edwin D. Ebright, Enid.

**Antituberculosis Association Organized.**—The Oklahoma State Association for the Prevention and Cure of Tuberculosis, with headquarters at Enid, was granted a state charter, January 11. The directors are Dr. Franklyn P. Davis, Enid, secretary of the State Board of Medical Examiners, H. B. Shields, Chester Harper, and A. E. Sale, all of Enid. At the meeting for organization, the following officers were elected:

## VIRGINIA

**Open-Air School for Tuberculosis.**—Ironville Sanatorium for Tuberculosis, Roanoke, is to be converted into an open-air school for the prevention of tuberculosis, and for the attainment and preservation of the physical development of the pupils. Dr. Lester L. Schwab, Roanoke, is president of the institution.

**State Board of Health Meeting.**—At the annual meeting of the State Board of Health, January 5, Dr. Samuel P. Latane, Winchester, member from the Seventh District, was elected secretary of the board to take the place of Dr. Charles R. Grandy, Norfolk, resigned. Dr. Rawley W. Martin, Lynchburg, remains president of the board.

**Medical Colleges Merged.**—As a result of the fire which recently destroyed the building of the University College of Medicine, Richmond, a merger has been brought about between that school and the Medical College of Virginia. It is understood, since the older of the two schools is the Medical College of Virginia, that that name will be retained following the merger. The agreement calls for the resignation of all the professors of both faculties, so that for the new college the best teachers may be selected.

**Medical Society Meetings.**—About fifteen physicians of Prince Edward, Cumberland, Nottoway, and Buckingham counties, and territory in adjacent counties not occupied by other county societies, met at Farmville, January 21, and organized the Mettauer Medical Society with the following officers: President, Dr. Peter Winston, Farmville; vice-presidents, Drs. Waller M. Holladay, Hampden Sidney, Prince Edward county; William E. Brown, Shephards, Buckingham; Dr. Carter Weisigar, Cumberland, Cumberland county; James B. Abbitt, Appomattox, Appomattox county; Thomas M. Baird, Crewe, Nottoway county, and William E. Anderson, Farmville, at large; and secretary-treasurer, Dr. William J. Gills, Farmville. The next meeting is to be held in Farmville, April 19, with obstetrics and tuberculosis as the chief topics of discussion.——Patrick-Henry County Medical Society, at its annual meeting in Martinsville, January 8, elected the following officers: President, Dr. J. Russell Perkins, Spencer; vice-presidents, Drs. Leonidas C. Dickerson, Stuart, and Louis E. Fuller, Sandy River; secretary-treasurer, Dr. Jesse M. Shackelford, Martinsville.

## WASHINGTON

**Increases List of Reportable Diseases.**—The State Board of Health has revised its rules regarding reportable diseases and has added to the list cerebrospinal meningitis, hookworm, pellagra and anterior poliomyelitis.

**Spokane Secures Sane Ordinance.**—The Spokane City Council passed an ordinance at its meeting February 8, prohibiting the firing or discharge of toy cannons, cannon crackers, giant firecrackers, bombs, and blank cartridges within the city of Spokane at any time of the year.

**Medical Corps Organized.**—The National Guard of Washington has organized a medical department with an auxiliary hospital corps on similar lines of that of the regular establishment. The following officers have been commissioned: Dr. Elmer M. Brown, Tacoma, as colonel and surgeon-general; Dr. John S. Culp, Major Medical Corps, U. S. Army, retired, as lieutenant colonel; Dr. Dudley L. Munsen, Seattle, major; Dr. Frank M. Carroll, Seattle, captain, and Drs. James A. LaGasa, Tacoma, and James A. Durrent, Snohomish, lieutenants.

**Against Tuberculosis.**—As the result of meetings held last month in Tacoma, an antituberculosis society for Pierce county is to be organized.——The pulmonary hospital near Riverton was opened last month. It is known as the "Pulmonary Hospital of the City of Seattle," and is located on a site on the heights west of Riverton, on a tract of forty-two acres, purchased at a cost of $25,000. A central building has already been constructed, and with eleven open-air cottages, garbage incinerator and disinfectant house, hot water system, electric lights, a system of sewage collection and disposal, the institution will at present accommodate 20 patients.——The executive committee of the Antituberculosis League of King county has voted $5,000 for the construction of a sanatorium for tuberculosis to accommodate 50 patients.

**Annual Elections.**—At the annual meeting of Skagit County Medical Association, held in Anacortes, January 28, the following officers were elected: President, Dr. Hiram E. Cleveland, Burlington; vice-president, Dr. Winston Appleby, Anacortes; secretary-treasurer, Dr. Wilbur N. Hunt, Burlington; and censors, Drs. James F. Mills, Sedro Wooley, Adolph J. Osterman, Mount Vernon, and Robert L. Maloney, Anacortes.——Pierce County Medical Society, at its annual meeting, held in Tacoma, [illegible] elected: President, Dr. John B. [illegible] Drs. John R. Brown and Wilmot D. Read; secretary, Dr. Edward O. Sutton; and treasurer, Dr. Royal A. Gove, all of Tacoma.——At the annual meeting of Spokane County Medical Society, held in Spokane, January 6, the following officers were elected: President, Dr. Henry B. Luhn; vice-presidents, Drs. Matthew B. Grieve and George T. Penn; secretary, Dr. Carroll L. Smith; corresponding secretary, Dr. Clarence A. Veasey; treasurer, Dr. Charles M. Doland, and censors, Drs. Harold H. McCarthy, Wilson Johnston and Frank Rose, all of Spokane.——King County Medical Society, at its annual meeting, held in Seattle, January 3, elected Dr. Park W. Willis, president; Dr. H. Eugene Allen, vice-president; Dr. John W. Hunt, secretary; and Dr. Philip V. Von Puhl, treasurer, all of Seattle.——Chehalis County Medical Society held its annual meeting in Aberdeen, January 4, and elected Dr. Arthur S. Austin, president; Dr. James A. McNiven, vice-president; and Dr. Clayton E. Bartlett, secretary-treasurer, all of Aberdeen.

## GENERAL NEWS AND COMMENT

**New Navy Hospital.**—A new navy hospital is to be erected at Guam at a cost of $6,000, on the recommendation of the commandant and medical officers at that station.

**Milk Commission Council Meeting.**—The judicial council of the American Association of Medical Milk Commissions, of which Dr. Henry E. Tuley, Louisville, is chairman, will hold its annual meeting in St. Louis, June 6, the day before the meeting of the American Medical Association. The meeting will probably be held in the Southern Hotel.

**Congress of Alimentary Hygiene.**—The second International Congress of Alimentary Hygiene and of the Rational Feeding of Man will be held in Brussels, Belgium, October 4-8, under the patronage of the Belgian government. The business of the congress is to be considered in seven sections namely: Biologic Physic [illegible] and Physiologic Chemistry —Rati [illegible] Dietary; Hygiene of Nutrition—[illegible] and Alimentary Intoxication; [illegible] yses of Foods—Adulteration of Foods, with subsections on different kinds of foods and dairy products; Potable Waters; Legislation—Repression of Frauds—Inspection—Statistics; and inspection of a popular character concerning rational feeding and alimentary hygiene —cooperative societies, food administration, the food of charitable institutions, and food in different sociologic relations. The problems to be discussed are of [illegible] the authorities of the congress have [illegible] an American committee. Dr. Harve [illegible] is in charge of the organization for [illegible] membership fee is $4 and associate membership fee $2.

**Society Meetings.**—At the annual meeting of the Kansas City Academy of Medicine, composed of physicians of Kansas City, Mo., and Kansas City, Kan., held January 8, Dr. George M. Gray, Kansas City, Kan., was elected president; Dr. Paul V. Wooley, Kansas City, Mo., secretary; Dr. Charles B. Hardin, Kansas City, Mo., treasurer, and Dr. Peter T. Bohan, Kansas City, Mo., censor.——At the annual meeting of the Chattahoochee Valley Medical Association, held in West Point, Ga., January 11 and 12, the following officers were elected: President, Dr. Joseph S. Horsley, West Point, Ga.; secretary-treasurer, Dr. William J. Love, Opelika, Ala. (reelected), and councilor, Dr. Henry B. Disharoon, Roanoke, Ala. The next meeting is to be held in Roanoke, Ala.——Fox River Valley Medical Society, at its annual meeting, held in Oshkosh, January 18, elected the following officers: President, Dr. Robert A. Walker, Menominee, Mich.; vice-presidents, Drs. Henry W. Abraham, Appleton, Wis., and S. Gordon Todd, Neenah, Wis.; and secretary-treasurer, Dr. William W. Kelly, Green Bay. A surgical clinic was held for the Association at St. Mary's Hospital, conducted by Dr. Charles W. Oviatt, Oshkosh.——At the seventeenth annual meeting of the Medical Club of Philadelphia, whose membership is made up of medical men of eastern Pennsylvania, southern New Jersey and Delaware, the following officers were elected: President, Dr. James B. Walker, Philadelphia; vice-presidents, Drs. William L. Rodman and S. Lewis Ziegler; governor, Dr. George A. Knowles; and directors, Drs. Ross V. Patterson, Frank C. Hammond, McCluney Radcliffe, James T. Rugh, and Charles A. E. Codman, all of Philadelphia.

**The Conference on Medical Education and Legislation.**—This joint conference will be held at the Congress Hotel (Annex), Chicago, February 28, March 1 and 2. On the first day will be held the Sixth Annual Conference of the Council on Medical Education at which, besides the reports of the chairman, secretary and a special committee on practical tests at state license examinations, will be given the following addresses:

"Standards in Medical Education as Related to Standards in General Education," Hon. Elmer Ellsworth Brown, United States Commissioner of Education, Washington, D. C.

"The Obligations of the University to Medical Education," President Henry S. Pritchett of the *Carnegie Foundation for the* Advancement of Teaching, New York City.

"The Relation of the University to the Medical School," President J. G. Schurman of Cornell University, Ithaca, N. Y.

"Some of the Functions of a University Medical School," Dr. Victor C. Vaughan, Dean, University of Michigan College of Medicine and Surgery, Ann Arbor.

On the second day, at the morning session, will be held a joint conference of the Council on Medical Education and the Committee on Medical Legislation, to discuss a model medical practice act. At the afternoon session, the following addresses will be given:

"Some of the Constitutional Aspects of Medical Licensure," Professor Ernest Freund, Professor of Jurisprudence and Public Law, University of Chicago.

"The Value of Uniform State Laws Regulating the Practice of Medicine," Professor Roscoe Pound, University of Chicago.

"Importance to the Public of the Proper Enforcement of Medical License Laws," Hon. Henry Olson, Chief Justice, Municipal Court, Chicago.

"The Attitude of the Medical Profession Regarding Medical Practice Laws," Dr. Henry B. Favill, Chicago.

On the third day the Committee on Medical Legislation will hold its fifth annual conference, at which, besides the routine business and the reports of the various reference committees, there will be reports from the following special committees:

(a) Report of the Carroll Fund Committee, Major M. W. Ireland, U. S. A., chairman.

(b) Report of the Committee on Optometry, George W. Gay, Massachusetts, chairman.

(c) Report of the Special Committee on Expert Testimony, L. M. Halsey, New Jersey, chairman.

This is the first time that the conferences of the Council on Medical Education and the Committee on Medical Legislation have been held at the same time and place. In the discussion of medical education and the model practice act as well as of a number of the pure-food and other public-health topics, the state boards of medical examiners and the state boards of health are interested, and a large attendance from those boards is expected. There is also the assurance that a large number of university presidents, particularly those connected with institutions having medical departments, will be in attendance. This promises to be a very interesting conference and it is very encouraging as well as significant to note the interest being taken in it by so large a number of distinguished and influential laymen.

## FOREIGN

**Scandinavian Congress for Internal Medicine.**—The seventh Northern Congress for Internal Medicine will meet at Bergen in July, 1911. The topics announced for discussion are "Pernicious Anemia," with addresses by Tallquist of Helsingfors and Ellermann of Copenhagen, and "Cardiac Arrhythmia," with addresses by Frieberger of Upsala and Rubow of Copenhagen.

**Memorial to Professor Jeutzer of Geneva.**—Subscriptions were collected and a bronze bust of the late Prof. A. Jeutzer was recently installed at the entrance to the new model maternity at Geneva, Switzerland. The institution owes its inception and organization mainly to his efforts. Enough funds remained in the hands of the committee in charge of the subscription to found an annual prize in gynecology, to be known by his name.

**Gold Medal Prizes Offered at Buenos Ayres.**—The national Academy of Medicine at Buenos Ayres, in order to stimulate scientific research and also do honor to the approaching centennial of the Argentine Republic offers three prizes for the best work in some branch of internal medicine, surgery or the biologic sciences. The prizes will be awarded soon after the conclusion of the International American Medical Congress to convene there May 25, as already mentioned in these columns.

**Recent Deaths Abroad.**—In addition to the deaths of eminent medical men chronicled in our foreign correspondence of late, the profession has lost the following: Dr. H. Adler, of Vienna, editor of the *Wiener med. Wochenschrift.*——Dr. J. H. Baas, of Worms, a well-known ophthalmologist and author of works on the historical development of the medical profession and of the medical sciences.——Dr. J. Nicolaysen, until last year professor of surgery at the university of Christiania.——Dr. E. J. Widmark, professor of ophthalmology at the university of Stockholm and editor of an ophthalmologic annals.——Dr. J. M. Mariani, of Madrid, of the national board of health and president of the *Academia Medico-Quirugica Espanola* for many terms.——Dr. S. Iglesias, formerly professor of therapeutics at Madrid.——Dr. P. Lesshaft, professor of anatomy at the university of St. Petersburg.——Dr. L. Schweiger, of Vienna, known for his writings on neurology.——Dr. A. Spediacci, professor of pathology at the university of Siena.——Dr. Opitz, an orthopedist of Stettin, Germany, who died from a Roentgen burn, and Dr. O. Happel, of Marburg, from professional infection.——Dr. O. Kölpin, of Bonn, killed in a railroad accident.——The following deaths of eminent medical men of Great Britain have recently occurred: Dr. W. Page May, lecturer on physiology of the nervous system in University College, London, who died January 19, aged 46.——Stanley Bean Atkinson, M.B.; barrister at law; justice of peace; formerly honorary secretary of the Medicolegal society, and the editor of its transactions, who died January 18, aged 36.——Dr. George Skene Keith, author of "Fads of An Old Physician;" and an apostle of the simple regimen.——Major J. C. Weir, R.A.M.C.; sanitary officer of the Lucknow command, who died suddenly from cholera, December 20, on board ship while en route to Calcutta.

## LONDON LETTER

*(From Our Regular Correspondent)*

London, Feb. 5, 1910.

### A Question of Color Blindness: Expert's Evidence Set Aside

A curious case of color blindness has recently occupied the attention of government officials. A man began a seafaring life as an ordinary seaman and worked himself up so that six years ago he passed the examination for a second mate's certificate. No question of color blindness arose until eighteen months later when he was examined for a first mate's certificate. He was rejected in the color test and asked to surrender his certificate as second mate. He appealed and was submitted for examination to Sir William Abney, F.R.S., an eminent physicist and the foremost authority on color vision in Great Britain. Sir William Abney found that the man was red blind; both colored lights and wools were used in the tests. He was then put to practical tests by two independent men, of whom neither was a color expert. The man was taken down the Thames in a steamer at night when the weather was fine but hazy to see how he could pick up lights and name their color. So accurate did his vision prove for red that he was able to distinguish red rays in the Nore light. The reddish color in the planet Mars was at once seen by him though he was unaware of the planet's identity. Both examiners declared that he had unusually good sight and never made a mistake in determining the color of any light. The man has therefore been declared by the board not to be color blind and as competent to discharge his duties as mate. This result points to the conclusion that the color tests of the board of trade, which have been adopted under the advice of the Royal Society, the leading scientific body in Great Britain, are fallacious.

### A Commission on Pellagra

A commission consisting of Sir Patrick Manson, Sir Lauder Brunton, Sir Clifford Allbutt, Sir William Leishman, Professors Osler, Ross, Simpson, Minchin and others has been formed for the investigation of pellagra. It is proposed to send Dr. Sambon and some others to the pellagrous districts of Italy. Dr. Sambon is a well-known opponent of the infected-maize theory and has endeavored to prove that the disease is due to some protozoon. He proposes to examine the relation of the various midges or sand flies to the distribution of cases. A study of their topographic, geographic and seasonal distribution has shown, he declares, a marked correspondence to that of pellagra.

### The Appointment of Medical Women to Resident Posts in Hospitals

The question of the appointment of medical women to resident posts in general hospitals has proved a vexed one. Those who advocate women's rights to the extent of the removal of all sex disqualifications insist that women should be eligible for the same posts as men. On the other hand, the obvious objections to women physicians dealing with certain emergency cases, such as retention of urine in the male from stricture, have been urged against their appointment to general hospitals. Viewing the question from the moral standpoint, the reply is made that if nothing immoral is involved in the treatment of women by men for sexual ailments there is nothing immoral in the treatment of men by women for the same complaints. But there is the further argument that male patients would object to treatment by women. The controversy has reached an acute form at the Manchester Royal Infirmary, the board of which decided not to appoint women physicians to resident posts. As the infirmary is the clinical school of the Victoria University, the question then came before the convocation of this body. A resolution was proposed that, having regard to the interests of women students, the convocation should request the university court to ask the board of the infirmary to reconsider its decision. It was pointed out that as these resident posts are really an extension of the student's career, and are analogous to scholarships and fellowships, they ought to be considered part of the course, through which all medical students might hope to pass after they entered the university. It is one of the features of the university to make no distinction between men and women students. In opposition to the resolution, it was stated that the infirmary had never held out hopes or expectations to women medical students that they should be appointed to resident posts. It was also pointed out that, assuming the province of medical women was to treat women and children, they should seek hospital experience in hospitals specially set apart for women and children and not in general hospitals where it is extremely difficult to employ them satisfactorily. The resolution was carried by a large majority.

## PARIS LETTER

*(From Our Regular Correspondent)*

Paris, Feb. 4, 1910.

### The Floods and the Paris Hospitals

The floods, which have created so much havoc in Paris, have unfortunately not spared the hospitals. From the first, the Hospital of Ivry was inundated, and it was impossible to supply it with provisions. With the greatest difficulty, the patients were removed to the Saltpêtrière. The Boucicaut Hospital, which was in particular danger, has been evacuated, the patients being distributed among the Beaujon, Necker and Laennec Hospitals. The situation in some of the hospitals is lamentable. The basements are flooded at the Hôtel-Dieu, at St. Antoine, and at the Charité. The furnaces and the electric light plants are out, the patients have no more linen, the hospital laundries cannot work, and food supplies can hardly be obtained. The situation of the patients is pitiable, in spite of the best efforts of the hospital staff.

### The Sanitation of Paris After the Flood

The Prefect of the Seine has just ordered that, as soon as the water shall have receded, the owners of property shall have the premises cleaned and disinfected within twenty-four hours. In case the owners do not comply, the work will be done at their expense and risk.

### Election of Sir Patrick Manson to the Academy of Sciences

During its session of January 31, the Academy of Sciences elected Sir Patrick Manson of London foreign correspondent for the section of medicine and surgery.

### Literary Critics of the Medical Profession

Since the time of Molière, who in comedies overwhelmed the physicians of his time with ridicule, there have always been in France literary men inclined to exercise their wit at the expense of the medical profession and of physicians. In the present generation certain of these critics, among them Octave Mirbeau and Henry Maret, have been extremely violent in their strictures on physicians. A few years ago Léon Daudet, son of the celebrated novelist, Alphonse Daudet, and himself a writer of talent, published a pamphlet in which he criticized physicians violently, calling them *morticoles*, that is to say, cultivators of death. This pamphlet created quite a sensation, especially because its author had studied medicine, although he did not graduate. Recently Dr. G. Pasquier, devoting his inaugural thesis to "The Enemies of the Medical Profession," asked certain writers, especially those who have often attacked physicians, to express their sincere opinion in regard to the medical profession and its representatives. The replies which he received show that literary men in general hold the medical profession in high esteem. Except Henry Maret, who went so far as to declare that therapeutics had not made the least progress since Hippocrates and Galen, inasmuch as more people die than ever, all the writers render justice to the knowledge and the devotion of the medical profession. Thus Octave Mirbeau writes, "I have no enmity against physicians. If I have sometimes directed some sallies against them it is because the medical profession, like all other professions, is open to criticism and satire—more than the others perhaps, for the higher the standing of a profession the more merciless satire should be against those who fail to recognize their social rôle and their great duties toward humanity. I have on the contrary a very lively sympathy, rising to a very lively admiration, for physicians, by whom I mean, of course, properly educated, hardworking, conscientious physicians. There is no profession which I find finer, more elevated and more noble in its ideals. There is none which demands more disinterestedness, more real renunciation, more self-sacrifice. I speak, be it understood, of practitioners, not of those teaching bonzes who despise medicine, consider therapeutics a low charlatanism and whose whole life is devoted to the chatter of congresses and to the intrigues of salons and academies."

Alfred Capus, the most popular of our dramatic writers, the most spirited painter of French contemporary manners and society, declares that he is certain that if physicians had not a very delicate sense of their responsibilities they would deserve all the attacks made on them; but, he says, this failure to recognize their responsibilities is very rare, or, indeed, altogether exceptional among them. "The moral and philosophic education of the physician is carried to a very high point; it cannot be carried too far. The physician ought to know the social man as well as the physiologic man. There is no profession which, in order to be nobly practiced, demands more general ideas apart from its technic. This kind of education naturally cannot be given at school and depends on personal initiative and conscience."

A few years ago in connection with the publication of the French translation of the celebrated memoirs of the Russian writer and physician, Veressaiev, the poet Jean Carrère said, "Placed before suffering and infinitely varied humanity, it is necessary that physicians should scrutinize the soul and the mind as well as the lungs and the heart, and thus they are forced to be psychologists as well as physiologists, comforters of souls as well as healers of bodies." Abel Faivre, the celebrated painter and humanist, whose caricatures on the medical profession always have a great success, writes, "I am the son of a physician, my brother is a physician and I have too many illustrious friends in the medical profession to be suspected of enmity toward it; but from the point of view of humor and of human characteristics the medical profession offers rich material." He adds that, if asked, he would have expressed his admiration for medical virtues and his high opinion of physicians in general.

### Cremation in Paris and in Foreign Countries

M. Ranvier, who officially reports funerals to the municipal council, has reported the number of cremations made in Paris during the last year. There were 403 cremations made at the request of families; 2,653 cremations of bodies from the amphitheaters of the hospitals, from the *Ecole pratique* of the college of medicine, and from the military hospital of Val-de-Grace; and 3,512 cremations of embryos; altogether 6,568 cremations. M. Ranvier states that, while in Paris and in the provinces (Rouen, Rheims and Marseilles have crematories) the situation is stationary, the principal foreign cities constantly make more and more cremations. Germany is at the head with 17 crematories; last year 4,050 cremations were made there, in place of 2,977 the preceding year. In Italy 27 cities practice cremation, and there was a total there of about 400 cremations last year. Great Britain has 13 crematories, and has had 795 cremations. Without dwelling at length on the conditions which have made the progress of cremation slower in France than in Germany, M. Ranvier indicates, nevertheless, that reforms are indispensable. The process requires too much time, and the Society for the Encouragement of Cremation is seeking a process which will reduce the duration by about half. M. Barrier, member of the Academy of Medicine and director of the veterinary school at Alfort was recently elected president of this society in place of Dr. Bourneville, deceased.

## BERLIN LETTER

*(From Our Regular Correspondent)*

Berlin, Jan. 26, 1910.

### Transactions of the Medical Council for Berlin and the Province of Brandenburg

In a recent session of the medical council (*Aerztekammer*) for this district, the question of the establishment of wards for the middle classes in the municipal hospitals of Berlin was taken up. As I have previously told you, the municipal hospitals of this city provide for only one class of patients—those belonging to the lower class, especially the members of the sick benefit societies and the poor. The rates are 75 cents (3 marks) a day. As the charges for care in the private hospitals for patients of the middle class are relatively high and the fees for medical care must be added to them, the city administration has been requested to make provision for middle-class pay patients in the municipal hospitals. There is a difference of opinion among physicians and in the city government regarding the necessity of this step. In the public hospitals of a denominational but not municipal character there are 414 beds available and in private institutions 844, at a price of from $1.50 to $2.50 (6 to 10 marks) per day. It was recognized in the medical council that actual competition between the private clinics and the city is not to be expected, in consequence of establishments of wards for the middle classes, as the city in consideration of the actual cost could not go under $1.75 (7 marks). The existing dissatisfaction with the private hospitals is not unjustified, as it is often the case that very high prices are demanded from patients not well able to pay. The medical council passed a resolution to the effect that if a second class is established in the Berlin municipal hospitals the fees for medical service in case of patients able to pay shall correspond to those usually received by physicians in the locality. Accordingly, the council regards it as reasonable that a fee of $1 (4 marks) per patient per day shall be required, and that operations shall be charged in accordance with the financial ability of the patient.

From the report of the council's treasurer for 1909, we learn that the regular income from the taxes on physicians (which are legally established and for this council amount to 5 per cent. of the state taxes, in addition to an initial fee of $2.50) (10 marks) amounted to $23,000 (96,000 marks). As expenses for 1910, $33,000 was appropriated, of which $15,000 is for the physicians' relief bureau. This bureau had last year at its disposal $22,000, and paid out for relief $11,000; $2,500 was devoted to the founding of a loan fund for physicians, with the provision that physicians of the council district who have the right to vote may be permitted to borrow at most $125 (500 marks) for one year at 3 per cent. interest. An instance of sectarian intolerance has aroused natural indignation. It seems that a recently graduated medical student had reported to the hospital at Britz (in the neighborhood of Berlin) for his year of practice (which, as you understand, must be served, after the state examination, in a public hospital or scientific institution before the physician can obtain his license), but he received from the head of the hospital the following announcement: "I fail to find in your credentials (*curriculum vitæ*) a statement of your religious faith; as the physicians employed here at present will not associate with Jewish colleagues when off duty, I regret to say that I cannot accept you as a 'praktikant' in case you are a Jew." Naturally, the medical profession has severely condemned this narrow position, and the council passed resolutions to the effect that the executive committee suggest to the imperial chancellor and the minister of education that the district hospital in Britz be forbidden to receive medical "praktikants" under its present administration, and that the executive committee request the imperial chancellor to publish officially a decree that no one shall refuse on sectarian grounds the application of a "praktikant" for his year of service in a hospital.

### Report of the Berlin Medical School Inspectors

According to the report of the management of the Berlin school physicians, just published, there were in the last year 44 medical school inspectors for 228,455 pupils. Each physician had from 3,234 to 6,297 children under his supervision. Of the pupils reporting at school, 10 per cent. were rejected, chiefly on account of anemia, rachitis and intellectual inferiority. About one-fifth of the school children had to be kept under special supervision; 456 children were placed in the special classes for the weak-minded and 25 in an idiot asylum. Only 0.7 per cent. of school pupils suffered from tuberculosis. Only a few classes needed to be suspended for a short time on account of epidemics. The municipal laboratory was able to show in some cases that the infectious germs could be removed from the school room only by very thorough disinfection. One-fourth of all the children showed curvature of the spine. The city spent $20,000 (83,500 marks) for meals at school, providing 835,000 lunches in the children's diet kitchen. Hereafter lunches are to be provided in summer, for which $24,000 has been appropriated.

### New Affair at the Rudolph Virchow Hospital

Serious complaints have again been made of the Rudolph Virchow Hospital, which, as I have told you in former letters, has repeatedly been the subject of unpleasant discussion. Some nurses had appropriated for themselves most of the extra diet ordered for certain patients. As a consequence, three of the assistant nurses were immediately dismissed and the nurse in charge received a reprimand on account of insufficient supervision. The latter nurse poisoned herself two days after with morphin. Not only was this sad occurrence attributed to the management by the daily press, but also other arrangements of the hospital were unfavorably criticized, especially the overworking of the nurses and inadequate provisions for them. Investigation showed that the nurses had acted contrary to orders, and that the reprimand of the manager was justified in its content and form, and that the suicide of the nurse depended on an accumulation of causes, slight in themselves, especially on the influence of excitement due to menstruation. The management of the hospital should be exonerated from all blame in this matter.

### Care of Infants in Greater Berlin

The existing hygienic stations for the care of infants in Berlin received 15,000 infants in 1907, while the number of births this year was about 51,000. In Charlottenburg these institutions were visited by 3,000 infants, 41 per cent. of all the children born during the year. In Rixdorf 1,300 of the 6,000 infants born in 1908 were taken to the stations; in Schöneberg 480 out of 3.200. The Charlottenburg stations distributed in 1908 208,000 half liters of pasteurized milk and 2,200 liters of raw milk for infants. Of this, 71,000 liters were given free of charge to the poor. The entire cost of the infant hygienic stations in Charlottenburg, including the assistance to nursing mothers and the nourishment of pregnant women before delivery and the care of infants in the children's convalescence stations in 1908, amounted to $25,000 (104,000 marks).

### Free Choice of Physicians

The head of the association for protecting the interests of the German trades sickness insurance societies, lately stated in a newspaper that the societies opposed the free choice of physicians, as by this arrangement their chance of existence would be diminished. On the other hand, the mayor of the Westphalian industrial city Hagen makes the statement in a Cologne paper that in Hagen 38 societies with about 25,000 members have adopted the free choice of physicians, and that both physicians and insured are very well satisfied. He has not the impression that the interests of the 25,000 insured and their employers are subordinated to the one-sided economic interest of the Hagen physicians, but rather he believes that the contracts entered into provide equally for the interests of both sides. It is to be hoped that this statement of an experienced mayor will receive attention in the revision of the new imperial insurance law, which is still being actively carried on in the federal council.

## VIENNA LETTER

*(From Our Regular Correspondent)*

Vienna, Jan. 30, 1910.

### Laws on Hours of Labor in Austria

A memorandum drawn up by the sociologic committee of the Vienna Medical Society sets forth present conditions of labor in Austrian factories, with the object of inducing the government to hear suggestions from medical experts before formulating the much-needed reform of our public health act dealing with the conditions of labor. Most of the regulations now in force date from some time between 1896 and 1869; only a few imperatively demanded orders were promulgated a year or two ago. The ministry of commerce has power to regulate the length of the working day in some occupations which are liable to seasonal and trade fluctuations (in some instances a fourteen-hour working day may be permitted for certain weeks), but may not take action to protect the worker's health. The length of the working day in various trades is so long as to involve a deterioration of the health of a large proportion of the working population. The memorandum of the committee to the government suggests that the ministry of commerce be empowered to limit hours of work, after consulting the chief board of health (*Oberste Sanitätsrath*), in all instances in which the health of the laborers is injuriously affected; and that the number of trade-inspectors be increased, chiefly by the appointment of qualified medical men.

### Cremation Not Officially Favored in Austria

In Prague, a society called "Flame," desiring to promote cremation, was refused permission, not merely to erect a crematory, but also to make its object known through popular lectures. Needless to say, religious motives were behind the refusal. There are, however, two crematories in this country, one in Graz and one in Vienna; but bureaucratic difficulties are often interposed, so that generally the cremation of an Austrian takes place outside the frontiers, in Gotha, Germany. Although the society for the promotion of popular education (*Volksbildungsverein*) has held demonstrations and lectures on the subject in Vienna and other large cities, religious prejudices are much too strong in the minds of our conservative bureaucrats to permit them to see the advantages of cremation.

# *Pharmacology*

## THE AMERICAN DRUGGISTS SYNDICATE

### Its New Propaganda of Personal Abuse and Professional Dissension

There is a saying current in the legal world regarding the attitude taken by a certain class of lawyers: "No case? Abuse opponent's attorney!" The American Druggists Syndicate finds itself in this predicament.

It being impossible to refute the statements made in The Journal, the officers evidently concluded to "reply" by making a general *personal* attack. They have secured for that purpose the material that has been used so liberally during the past year by those who, to satisfy personal animosity and to aid certain proprietary interests whose frauds The Journal has exposed, have striven to bring about a return to the old, "let-us-alone" days.

The A. D. S. publishes a house-organ called the *Voice of the Retail Druggist*—a title, by the way, that is an unwarranted slander on the decent pharmacists of the country. In the January issue of the *Voice*, in an attempt to offset the charges made in The Journal, the real issues are carefully befogged while pages are devoted to villifying the editor of The Journal. This specimen of journalistic mud-slinging has evidently been given wide circulation.

Nor is this the only method by which the officers of the A. D. S. attempt to create a breach between pharmacists and physicians; circular letters are being sent broadcast to pharmacists with the same object in view, and with the further hope of causing dissension within the ranks of the medical profession itself. The following is one example of this new propaganda of destruction:

AMERICAN DRUGGISTS SYNDICATE

Greater New York, Feb. 8, 1910.

*Gentlemen:*—You have no doubt read in the January *Voice* our reply to the vicious and lying attacks made upon the A. D. S. by Dr. G. H. Simmons in The Journal of the American Medical Association, of which he is editor. We trust you have familiarized yourself with the data covered by the *Voice* articles on Simmons and are prepared to present them in a cogent manner to physicians and others who may be interested in the controversy provoked by Simmons' onslaught.

We believe that the great majority of physicians belonging to the A. M. A. will condemn Simmons' course when they understand the true character of the man and the unworthy motives that govern his attitude toward the A. D. S. The medical council of Chicago, where Simmons is well known, has already condemned Simmons' general policy and has taken steps to oust him from the position of editor and secretary of the A. M. A. [Reference is here made to the resolutions adopted at the January meeting of the Council of the Chicago Medical Society, and rescinded at the February meeting. —Ed.]

We rely on you as one of the most loyal and enthusiastic A. D. S. members to see that this matter is presented by some friendly physician at the next meeting of your county medical association. It will be an easy matter for a physician to become indignant and demand that the charges made by the *Voice* be investigated. That is all that will be necessary, no matter what action is taken by the county medical society. It will have the same effect on Simmons.

By acting promptly in this matter you will do yourself and all the A. D. S. members a valuable service. Please keep us informed as to the results of your action.

Very truly yours,

The Voice of the Retail Druggist,
Walter Lingenfelder, Editor.

Thus we have another phase of the "patent medicine" interests urging reforms (?) in the American Medical Association.

[Contribution from the Chemical Laboratory of the American Medical Association]

## PHARMACEUTICAL IMPOSSIBILITIES—CONIIN OR CICUTIN

W. A. Puckner and L. E. Warren

Some time ago[1] a contribution from the chemical laboratory showed that pharmaceutical manufacturers often attempt that which is, if not impossible, at least impracticable. The present article illustrates this point still further.

An advertisement was offered to The Journal recently, in which among other products reference was made to cicutin granules. Since advertisements for medicinal articles are accepted for The Journal only when the preparations are to be found in the United States Pharmacopeia, the National Formulary, or New and Nonofficial Remedies, and since cicutin is to be found in none of these, reference to cicutin granules was omitted from the advertisement. In view of this request, however, for the privilege of advertising an unofficial article not contained in N. N. R., the Council on Pharmacy and Chemistry decided to consider cicutin with a view to its eligibility for inclusion with N. N. R., and the laboratory at the request of the Council took up the examination of cicutin granules.

Cicutin is the practically obsolete name of the volatile, liquid alkaloid better known as conin or coniin, to which conium owes most of its medicinal effects. The free alkaloid —being a volatile liquid and having a disagreeable mouse-like odor—is not given as such but is used in the form of one of its salts, as for instance coniin hydrobromid, which is stable and odorless.

From the above it will be realized that it would be a difficult task to prepare tablets, pills or granules containing the free alkaloid, yet one manufacturing house was foolish enough to offer for sale granules said to contain 0.0005 gm. (1-134 grain) of cicutin. Having in mind the results of the examination of the tablets of bismuth, opium and phenol (which demonstrated that phenol could not be put up successfully in tablet form) the laboratory decided to determine to what extent the manufacturer had been successful in his attempt to prepare granules containing a volatile liquid.

A specimen of cicutin granules was purchased in the open market and examined with especial reference to its content of free alkaloid. As was to be expected from the volatile nature of the alkaloid no free coniin was found. Combined alkaloid, however, was present in amounts equivalent to about 53 per cent. of the amount claimed to be present in the free state. If calculated to hydrobromid the quantity found would amount to about 85 per cent. of the dosage stated on the label. From this it seemed probable that the manufacturer had used a salt of coniin in place of the free alkaloid and had carelessly permitted the label to mislead. But when informed that the granules did not contain the free base as claimed, the reply of the manufacturer indicated that the attempt had actually been made to produce granules containing the free alkaloid in definite quantities. Apparently no effort had been made to determine to what extent the attempt to put a volatile liquid into granules on a commercial scale had been successful, i. e., no laboratory control seemed to have been exercised over the finished product. In fact, the indications were that the retention in the product of any part of the alkaloid used was due to the presence of traces of acid, present as an impurity in the excipient, which had combined with a portion of the alkaloid to form a nonvolatile salt.

As a check a specimen received directly from the manufacturer was examined. The examination of this specimen showed that free alkaloid was absent and that combined alkaloid was present in amounts equivalent to about 50 per cent. of the amount claimed to be present in the free state—results agreeing substantially with those obtained in the examination of the first specimen.

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[1] Puckner, W. A., and Clark, A. H.: Examination of Tablets of Bismuth, Opium and Phenol, The Journal A. M. A., July 25, 1908.

The results of the second examination having been submitted to the manufacturer and their correctness admitted, the company stated that it had deleted the article from its price list, had stopped supplying it, and had called in, so far as possible, whatever stock of the product there was outstanding. In view, too, of the criticism of the use of the practically obsolete word cicutin the company will give the better known term coniin as a synonym and cross-reference.

Comment. The results just given again emphasize the need of such investigations by the Council of Pharmacy and Chemistry and the Association laboratory, especially of unofficial drugs that have no standard of purity and which are therefore peculiarly liable to adulteration or variations in strength. Physicians will do well to confine their prescribing so far as possible to standard, official drugs and to those contained in New and Nonofficial Remedies. The enforcement of the Food and Drugs Act and the keenness of competition have sufficed to make many standard chemicals used in medicine now available in a high degree of purity. Even proprietary drugs, largely through the efforts of the Council, have been made more reliable. On the other hand there are on the market an immense number of unofficial, non-proprietary drugs which are practically uncontrolled. Because of their large number and relative unimportance and because there are no standards of purity for them, and because there is little or no competition in their manufacture they are peculiarly likely to be impure and unreliable and it is highly desirable that physicians avoid their use so far as possible.

As for the drug conium and its alkaloid coniin (one time respectively known as cicuta and cicutin) it or both probably belong to the very large class of drugs that "never would be missed!" If, however, the physician wishes to obtain the effect of coniin he should give preference to one of its well-defined and stable salts.

## Amendments to the Constitution of the Pharmacopeial Convention

*To the Medical and Pharmaceutical Press:* At a regular meeting of the Board of Trustees of the United States Pharmacopeial Convention, held at Columbus, Ohio, Jan. 28 and 29, 1910, it was resolved, five members of the Board of Trustees assenting thereto, to submit to the next meeting of the United States Pharmacopeial Convention (incorporated) the following propositions to amend the constitution of the convention in the following particulars:

1. To amend Section 2, Article II, relating to membership, by inserting after the title "the Surgeon-General of the United States Public Health and Marine-Hospital Service," the following; "The Secretary of Agriculture, the Secretary of Commerce and Labor, the Association of Official Agricultural Chemists, the Association of State and National Food and Dairy Department, the National Wholesale Druggists' Association and the National Dental Association."

2. Also to amend said Section 2, Article II, by changing the words "three delegates" in line eleven (page seven of the reprint of the Constitution and By-Laws of 1909) to "one delegate;" the effect of this change being to reduce the representation of each organized body and department to one delegate each.

3. Also to amend Article IV, concerning "Committees and Trustees," by changing the title "Committee on Revision," to that of "General Committee on Revision" (Ibid. last line).

The constitution does not require notice to be given of proposed changes in the by-laws of the convention, but to make clear the purpose of the change proposed in the present title of the Committee on Revision, it is hereby announced that the Board of Trustees will submit to the convention propositions to amend the by-laws as follows: To increase the number of members on the Committee on Revision, hereafter to be known as the "General Committee on Revision" from twenty-five to fifty, said General Committee on Revision to create from its own membership an Executive Committee on Revision of fifteen members, to have immediate charge of the work of revision, and also giving to said General Committee on Revision certain advisory and supervisory powers over the work of the Executive Committee on Revision.

Murray Galt Motter, Secretary.

## SANATOGEN

"Will you please give me the composition of Sanatogen, exploited by the Bauer Chemical Co., New York? I wish the information to answer a question that has been referred to me."

B. F. B., Lincoln, Neb.

According to the manufacturers, this patented medicine—or food—is composed of 95 per cent. casein and 5 per cent. sodium glycerophosphate. The preparation is advertised very extensively to both physicians and the laity, on both sides of the Atlantic. In Great Britain it is a "tonic food," in this country a "food tonic;" whether this is a distinction with or without a difference, it is hard to say. The public is told that sanatogen is "a muscle builder and a nerve and brain food;" the medical profession, that "it should not be regarded as a food preparation in the ordinary sense of the term and it is not offered as such to the medical profession. . . ." Many of the claims made for this combination of milk-curd and glycerophosphates are exaggerated and absurd. The following are taken from advertisements, appearing both in this country and abroad

> "The Re-Creator of Lost Health."
> "Sanatogen is . . . a rebuilding food."
> ". . . revitalizes the overworked nervous system."
> "Specific nerve tonic action."
> "Most reliable and scientific of all nutrients."
> ". . . *in certain diseases* it exerts a *specific action* which renders it a valuable adjunct to other curative measures."

In one of the form letters sent to physicians, the makers of sanatogen opine that "you have likely noticed" an article that appeared "in the May issue" of a certain medical journal. The ingenuousness of this intimation becomes apparent when it is known that a few days previous to receiving the letters, the physicians had been the recipients of pamphlet reprints of said article—"With Author's Compliments."

That milk curd has a food value no one will deny; that the glycerophosphates of soda have a place in medicine may be admitted; but that a combination of these two products should become at once the summum bonum of medicinal foods is a proposition that will not appeal to the thinking physician.

# Correspondence

## Physicians and Pharmacy—A Plea for Harmony[1]

*To the Editor:*—The nostrum evil continues to be a serious menace to the spirit of harmony which has been growing rapidly within the last few years. The National Association of Retail Druggists has been doing splendid work in what is known as the propaganda movement for the extension of the use of non-secret, ethical preparations of the United States Pharmacopeia and National Formulary. It has also labored hard to bring about a better and more harmonious spirit between physicians and druggists. The American Medical Association has accomplished an enormous amount of good through its Council on Pharmacy and Chemistry in giving the medical profession more comprehensive and detailed descriptions of the medicines which are unofficial but are used largely in actual practice.

The coming convention which meets in May in the City of Washington for the revision of the Pharmacopeia should be made up of delegates who will meet with one purpose, that of improving the present Pharmacopeia on the broadest, most scientific and practical lines. If the deliberations of this body are to be marred by even a touch of the old style rancor, crimination and recrimination between the members of the associations representing medicine and pharmacy, then there may be expected a repetition of the disastrous results which have kept back progress so long during the last thirty years. Why cannot the national associations representing medicine and pharmacy recognize the best work done by those members who are really working along the same lines for the elimination of all that is bad, and particularly the nostrum evil? Unfortunately, if one is looking for inconsistencies in the rank and file of the members of any of our national medical or pharmaceutical organizations, they can be found without the aid of Diogenes' lantern.

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[1] See editorial comment in this issue.

The druggist points to his prescription file and shows how many proprietary medicines are being prescribed by the physicians of his locality. The physician points the finger of scorn at the advertising cards in the druggists' windows of patent or proprietary medicines, kidney cures, catarrh remedies, headache powders, etc., and the druggist again points to the physician, who he believes has robbed him of his business by dispensing ready-made remedies to his patients, and the physician retorts that when the druggist stops prescribing over the counter he will stop dispensing, and so the angel of peace ceases to hover over the warring factions and silently departs until a more convenient season arrives.

The spirit of the "get-together" meetings which have been held throughout the United States where the druggist and the physician can discuss means of working together and fighting the common enemy, has been productive of a vast amount of good, and why cannot the old issues, which have never brought anything but strife and stagnation, be permitted to die, and in its stead let the new order of things with its spirit of harmony and cooperation prevail? This would mean a mutual respect. If this be done the medical practitioner, nauseated by the confusion arising from the trial of so many proprietary preparations, can be brought to a realization that he can be more successful in his practice if he employs at least 75 per cent. of official, non-secret substances, and the pharmacist will come back to his own by compounding prescriptions written by the physician to suit the particular stage of the disease from which the patient is suffering at the time. For the prescription should be changed from time to time as the condition changes, and the pharmacist realizes that it is his duty, and also to his interest, to advise his customers that proprietary and ready-made preparations when continued for any length of time often cause delay in alleviating disease, and, indeed, do a vast amount of harm, because the contents of the bottle remain the same, and if fitted for the onset of an attack is totally unfit for the convalescent or inflammatory stage.

Let us reason together and press forward the new order of things. The nostrum evil, which has existed for centuries, cannot be exterminated in a year nor probably a decade, maybe never; but it can be and is being controlled to an extent which few physicians realize. As an illustration, a large manufacturer of glassware stated six months ago that his business had been greatly curtailed. The question was asked, "Has the growth of prohibition in the states decreased the demand for whisky?" "Yes," he replied, "particularly in the South and West, but our business has fallen off nearly 50 per cent. in the making of proprietary medicine bottles and jars." Education through the public press and through our magazines is going on apace, and the day is probably not far off when legislation will make it a penal offense for using lying and misleading advertisements to the public, which have for so long been the principal asset of quack medicines.

Joseph P. Remington, Philadelphia.

### An Appreciation from Professor Politzer

*To the Editor:*—In reference to the anniversary of attainment of the degree of doctor of medicine at the University of Vienna, my American pupils and friends have given so many evidences of friendship and attachment, that I am only able in this way to thank them all.

If American specialists visiting Vienna will call on me, it will be a source of great pleasure to me to show them my collection of pathologic and anatomic specimens which, through years of careful selection, contains many instructive objects.

Prof. Dr. A. Politzer, Vienna.

### Human Hair Used for Sutures Long Ago

*To the Editor:*—I have been much interested in reading the article by Drs. Guthrie on the "Suture of Blood Vessels with Human Hair," in The Journal, Jan. 29, 1910. I have had no experience with suture of blood vessels, but as a suture material for places requiring very delicate threads, especially the face, mucous membrane of the lips, and the conjunctiva, I have used human hair repeatedly—probably a hundred times or more from 1889, when I first began practice, onward, and always with excellent results; though not much sterilizing of sutures was done in the early days. Wounds so sutured did not suppurate, and the resulting scar was reduced to a minimum. The hair was just plucked as wanted from the head of any woman convenient, passed through a weak phenol solution, or more frequently not even that, and used at once. I never saw a bad result. I received the "tip" from a brother practitioner, like myself then in general practice, who referred to it as being well, though not sufficiently widely known. From the phrase, "we decided to test a material universally distributed, namely, human hair," I gather that the authors of the article consider the use of hair novel, not merely for this special purpose only, but for any suturing at all.

Kenneth W. Millican, St. Louis.

### Scopolamin-Morphin Anesthesia

*To the Editor:*—In The Journal of February 12, I notice an error in the editorial on scopolamin-morphin anesthesia in labor which might lead to serious trouble. You state, "In obstetrics the usual initial dose is 0.0003 gram (about 1/100 grain) of hydrobromid of scopolamin." This should read 0.0003 (about *1/200 grain*) of scopolamin. My own experience with scopolamin in surgical cases covers a period of three years, and I can state that I have seen no bad effects following its use. I always inject two doses, the first 1/200 gr. of scopolamin and 1/6 gr. of morphin one hour before, and the second immediately before the administration of spinal anesthesia or ether. So far, I have not used the drug in obstetrics, but would favor its use in suitable cases.

Arthur J. Puls, M.D., Milwaukee.

### The Maguire Dropper for Saline Solution

*To the Editor:*—About four years ago I saw the growing need of some apparatus whereby saline solution could be administered by the drop method. After four years' work and an expense of over $500 (paid in experimenting), I perfected what is now known as the "Maguire dropper," and described it in the *Journal of the Michigan State Medical Society,* July, 1908. As it was against professional ethics to have this apparatus patented, I turned it over to the profession, and I notice in the last few months, since it has been placed on the market, that three imitations have appeared. One man has been so professional as to take the credit of getting it up himself and has applied for a patent on it, giving himself the credit of being the inventor of my dropper. This I do not care so much for, but each one has designed it wrongly and if these droppers are used they will only throw discredit on my apparatus and place me in a position similar to Dr. Murphy's with his button, when men undertook to modify what he had made perfect from his long experience.

I claim priority and the rights to patent on the "Maguire dropper," but for reasons above stated have turned my apparatus over to a surgical instrument house to manufacture for the benefit of the medical profession.

F. J. W. Maguire, Detroit.

### The Paris Floods

Paris, Feb. 1, 1910.

*To the Editor:*—For the past week Paris has been struggling with a rising flood, unlike anything recorded during the last 300 years. The Seine has risen about 24 feet above its customary level, and is fortunately now subsiding, but leaving some of the most important parts of Paris and the most fashionable quarters in a pitiable state. The causes of this flood are not so clear as one would suppose. I have spent the last two weeks in Paris, and no extraordinary rainfall has been recorded here during that time. The weather has been mild; the grass is green everywhere; very little snow has fallen in France. Indeed, the complaint has been in France and parts of Switzerland that the scant snow has prevented the customary winter sports. The floods, nevertheless, are a very serious reality and are due, doubtless, to persistent but not violent rainfall in the watershed of the Seine, and owing to mild weather and lack of proper percolation, the waters rush with unusual violence to the sea.

The worst feature of the flood is not so much the devastation along the river front, but the great damage done to the sewers of the city, and the consequent flooding of residential and business districts with sewage. These far-famed sewers of Paris are unable to discharge their contents in the ordinary way into the Seine. The rising river has caused a back-pressure in the sewers, and as the pressure is augmented by the accumulated flow from above, they have given way and have filled the streets and many thousand cellars and lower floors with their contents. More than this, the six lines of the metropolitan underground railway have had a hard struggle with the water, and service is entirely abolished on some of the principal lines as they are flooded. It will take months to empty the subways and the cellars and to render them sanitary and fit for travel. The whole military force, the Red Cross organization and the national government are actively at work and will take the most energetic and advanced measures for disinfection. The board of health is already issuing instructions to the public, and backed up by military authority, it is probable that within a month Paris will have purified itself and anxiety as to the future will have ceased.

All the Parisian papers, and the British papers as well, have pictured Paris in the most abject misery, and there has been widespread alarm for the safety of Americans sojourning in Paris, but this is quite unnecessary. In the fashionable quarter, near the *Arc de Triomphe*, one would scarcely know Paris was suffering in any way. To be sure, Longchamps is under water and resembles a beautiful lake, but the *Bois* is as gay as ever, and I believe that by the time this letter is in print everything will be fairly safe and charming in Paris.

The rising Seine has closed several hospitals; chief among these is the famous *Salpêtrière*, with 1,500 patients. Situated near the Seine and the *Jardin des Plantes*, it was soon invaded, but all the patients were successfully removed to *Bicêtre* and other hospitals. I saw the bears in the *Jardin des Plantes* up to their necks in water as I returned from Professor Raymond's clinic at the *Salpêtrière*.

The Boucicaut Hospital became flooded and 400 patients were successfully removed by boats to waiting automobiles, which took them, wrapped in their bed clothes, to points of safety. It took two and a half hours to remove the 400 patients, and credit is due M. Lépine for accomplishing this feat successfully.

The American ambassador, Mr. Robert Bacon, has been forced from his residence on the Rue François Ier. The newly completed American Hospital, in a suburban part of Paris, Boulevard du Chateau, Neuilly, is flooded. This model hospital cost $200,000, and was just ready to be opened, and has suffered thousands of dollars of damage. It is a gem of modern hospital construction, with free wards and private rooms at moderate prices. The medical board, consisting of Dr. A. J. Magnin, Dr. E. E. Gros and Dr. Crosby Whitman, has reason to be proud of this institution, and it will in due time be ready for use. Every American resident in Paris will feel safer in the mere knowledge that such an institution exists. The president, Mr. John H. Harges, the vice-president, Mr. J. J. Hoff, and such well-known governors as Mr. J. P. Morgan, are very earnest in working for the success of the American hospital.

An American visiting continental hospitals *cannot fail to* note the wide contrast between their nurses and those in British, Canadian or American hospitals. One object lesson which the American Hospital in Paris will afford will be its force of nurses, and Parisians will do well if they could introduce into their famous hospitals an up-to-date system of *nursing*. The trouble is that on the continent nursing has not risen to the dignity of a *profession*.

After a rapid tour through Italy, Switzerland and France, I retain my high opinion of the American hospital, the American nurses and the American system of medical education.

GUY HINSDALE.

# Miscellany

## CLIPPINGS FROM LAY EXCHANGES

### OLECTOMY

J. J. A——— has just undergone an operation . . . for what is known as "grease leg," a very uncommon and very painful disease. This was caused by a sprain in his right knee. The oil that lubricates the system gathered there, and some six ounces of oil of a reddish color were extracted.—El Paso (Tex.) *Herald*.

### THE TUMOR WERE REMOVED

Last week Drs. ———, . . . , performed one of the most delicate and difficult surgical operations that the medical fraternity are seldom called on to perform. For some time Miss ——— has had a tumorous growth in the stomach that has been carefully noted by Dr. ———, and when he deemed the right time for a surgical operation to be performed informed Miss ——— that only a most dangerous and difficult operation could save her life. The time arrived last week and the young lady bravely consented that the work might go on. Drs. ——— and ——— were called and a large tumor removed. —Scottville (Mich.) *Enterprise*, Dec. 16, 1909.

### A HOROBLE FIREY SWELLING SPRED

Last Thursday evening . . . W. D. F. ——— noticed a slight sore on the second finger of his right hand. . . . , it gradually grew worse until by Friday evening his hand was badly swolen and was gradually swelling up the arm. The red danger signal of blood poison began to show and a strip an inch and a half wide and of a firey inflamed color pushed its horoble course to the shoulder, while numerous small branches began to shoot from it. Billy was suffering greatly and his fever run up to 103. Dr. ——— was summoned and his skill soon arrested the spred of the poison, and he soon began to feel easier and by Sunday morning he was able to be out of bed.—Standard (Neb.) *Guage*, April 22, 1909.

### MADE HIM ILL TO BE THREATENED

Dr. ——— is quite ill of a threatened attack of fever.—Pikeville news, Ashland (Ky.) *Independent*, June 9, 1909.

**State Antimalaria Campaign in Italy.**—The antimalaria legislation adopted in Italy during the last ten years provides for the free distribution of quinin by the state to those suffering from malaria who are unable to secure it otherwise. For patients able to pay, quinin is sold at a nominal price at convenient places, *e. g.*, at every postoffice in the country. A table showing the sale of quinin by the state and the mortality from malaria for successive years appears in the *Revista de Medicina y Cirurgia* of Havana for November, copied from the *Revue d'Hygiène et de Police Sanitaire* of Paris. The article is by Bertarelli of Parma and is entitled "Ten Years of Antimalaria Legislation in Italy." In 1900, before the passage of the law providing for state distribution of quinin, the total mortality from malaria was 15,865. In 1901, it was 13.388. In 1902, the antimalaria law went into effect. In 1902-1903, 2,242 kilograms of quinin were sold or distributed gratuitously by the state. The effect on the malaria mortality was immediate, the number of deaths dropping to 9,908 in 1902 and to 8,519 in 1903. The sale of quinin gradually increased with each year, amounting to 24,351 kilograms in 1907-1908, and the mortality was proportionately lowered, being only 4,160 in 1907, or little more than one-fourth of the mortality seven years ago. The profits to the state from the sale of quinin in 1902 were 34,000 lire ($6,800); in 1908, 600,000 lire ($120,000). While much of the reduction in the death-rate is due to the state distribution of quinin, part of it may be attributed to the rigid laws enacted for the extermination of the mosquito and protection against it. The laws of 1901 and 1904 require that all dwelling-houses and especially all sleeping-rooms in definitely designated endemic zones must be screened from June to December. An interesting feature of this law is the provision requiring the screening of the tops of chimneys, as well as of doors and windows. Wire netting is required and the screening of doors is so arranged as to provide for a small entrance vestibule with double doors, something after the style of an air-lock in a cofferdam. Patients suffering from malaria must be kept in separate sleeping-rooms, which must be carefully screened from the rest of the house. Rigid regulations for the extermination of mosquitoes by draining or filling in stagnant pools, etc., are provided. These regulations apply not only to householders but to manufacturers and landed proprietors as well, and premiums up to $200 are allowed where precautions are taken on a large scale. Attempts at similar antimalaria suppression on the part of the state have also been made in Greece, Bulgaria and Dalmatia.

**Rural Hospitals.**—The advantage of the hospital to the city dweller has been long recognized; it is a benefit to both the physician and patient. One great advantage is the fact that it enables the physician to make use of modern methods of diagnosis which otherwise would be inaccessible to him. These advantages are to a large extent denied to the country practitioner, who must spend so much time in getting to his patient and in actual bedside observation that he has no time for the laboratory methods of diagnosis. Harris A. Houghton, in the *International Hospital Record*, Oct. 15, 1909, outlines a plan by which he believes these advantages of the city could be secured in country towns as well. He proposes that hospitals shall be erected by stock companies. The county medical society or an association of physicians could assume the management of such an institution. Houghton refers to the Bayside Infirmary at Bayside, Long Island, which was organized with a capital of $20,000. The hospital should not be made primarily a charitable institution, but should aim to make profit enough from well-to-do patients so that it could afford opportunities for the charitable societies and individuals of the community to care for needy patients at cost. It could thus enter into contracts with the poor authorities and with churches and lodges that would be mutually beneficial. One bacteriologist could serve both the hospital and the health department. Aside from the advantages of such a hospital to the physician there are several ways in which it would be of distinct service to the community: It would tend to overcome popular prejudice against hospitals. The patients would get the benefit of laboratory methods of diagnosis, better facilities for treatment and better nursing, and the opportunity given to young women to acquire training in the care of the sick, not so much for the purpose of enabling them to earn money as to render them capable housewives, would in a few years have a remarkably beneficial effect on the general welfare of the community.

**Women and Hours of Labor.**—*The Survey* for January in discussing the subject of overwork in connection with the recent decision of the Illinois court declaring unconstitutional the law limiting to ten hours the working day for women in factories and other industrial establishments, says: Expenditure of energy of any kind manufactures in the body certain poisonous products which are eliminated during rest. When the expenditure of energy is excessive or the period of rest is insufficient the fatigue poisons are not entirely eliminated. The periods of rest should therefore bear such a relation to the periods of labor that the fatigue of each day is completely repaired before the work of the next day begins. If this relation is not maintained evil consequences follow. The general vitality is lowered and susceptibility to general diseases and infections is greater. But the most serious danger is the tendency to exhaust the central nervous system, which controls all the vital functions. Overwork increases the danger from industrial accidents. The faculty of attention is weakened and an undue proportion of accidents occur. With relation to women, excessive hours and overwork, especially in occupations requiring continuous standing, are a cause of many deformities and diseased conditions of the pelvic organs which affect unfavorably their child-bearing function, and children born to exhausted women are at birth below the normal in size and weight and the mortality among them is abnormally high. Women are fundamentally weaker than men and are therefore more seriously affected by the strain of modern industry. Between the ages of 15 and 50 they lose much more time from work on account of sickness than men, even deducting the time lost on account of child-birth. Finally, women more urgently need the protection of the state from long hours and overwork because they are to be the mothers of the next generation. The problem of finding out at what point normal fatigue becomes pathologic fatigue when applied to the whole body of workers and the limitation of the hours of work is not an easy one.

**Diagnostic Methods Among the Ancients.**—The old statement that there is nothing new under the sun seems again to be verified in the statement that Laennec, to whom is attributed the discovery of the method of physical diagnosis, inspection, palpation, percussion and auscultation, was not the originator of these methods, but only perfected their use as an art. Cordell (*Bull. Johns Hopkins Hosp.*, December, 1909) calls attention to the fact that Aretaeus, the Cappadocian, a successor of Hippocrates, and a student of his works, and a contemporary of Galen, in the second century of the Christian era practiced all these methods. Aretaeus, as disclosed in his writings, was a very acute observer, and by inspection of his patients noted the character of the respiration, posture, decubitus, color, heat and swelling of the surface, the condition of the veins, tongue, pulse, nails, sputum, etc. He likewise resorted to palpation in enlargement of the liver and spleen, and notes the change in the position of ascitic fluid with change in posture of the patient, and by percussion noted tympanites, saying that the abdomen when tapped sounded like a drum. Hippocrates describes râles in diseases of the lungs, such as pneumonia, phthisis, empyema, etc., and they are also referred to by Caelius Aurelianus in the fifth century A. D., and by Paul of Aegina in the seventh century. The term percussion is used by Aretaeus in describing the symptoms of asthma, a name which evidently embraced other conditions giving rise to dyspnea, besides that to which we limit it. Hippocrates also laid much stress on succussion sounds in empyema. It is a fact of the highest interest that Aretaeus recognized heart murmurs by auscultation, and he seems the only one of the ancient writers who auscultated the heart.

**Puncturing the Amniotic Sac as Aid to Delivery.**—In the *Gynaekologische Rundschau*, III, 1909, 808, Prof. P. van der Hoeven of Leyden states that in his experience with 1,411 cases delivery was shortened by more than an hour when the amniotic sac was ruptured early. The only condition is that the os must be dilated to at least 3 or 4 cm. before the rupture occurs. This constant observation has impelled him to make a practice of rupturing the sac when the os is dilated to this extent. It permits the head to act more forcibly on the os and delivery is concluded in less time than otherwise. In a primipara with the os open to 5 cm. artificial rupture of the membranes brings expulsion in less than an hour and a half in more than half the cases, while with multiparæ the child is born in about an hour. In the Leyden clinic the number of cases in which forceps were required has dropped from 11 to 2 per cent. and for multiparæ from 8 to 1 per cent. Elsewhere in the Netherlands, where this is not the practice, forceps are used in 9 or 10 per cent. Only in three-tenths of the Leyden cases was version required as the skull did not present. The necessity for the various obstetric operations has been reduced by 50 per cent. since this procedure has been made the routine practice. Another advantage is that the number of cases of prolapse of the umbilical cord has also been correspondingly reduced. The woman must lie on her side in bed afterward; otherwise prolapse of the cord is still possible. He is collecting material for a monograph on the importance and advantages of opening the sac at a certain stage of labor. He uses his finger, not an instrument.

**The Dividends of Decency.**—The *Druggists Circular*, whose attitude of uncompromising opposition to quackery and the nostrum evil is well-known, says in a recent issue: "Astonishment at the attitude of the *Circular* toward the nostrum traffic is continually manifesting itself in those quarters in which a rake-off from the heavy profits of this cancerous growth on the drug business is regarded as one of the chief things that make several vocations allied to pharmacy worth following. Just why a publication should act openly and squarely with its readers when there seems to be so much more ready money in patting the nostrum men on the back with one hand and pulling the wool over the eyes of the

Abbe, R.: Radium as a Specific in Giant-Cell Sarcoma, *Med. Rec.*, Jan. 1, 1910; abstr. in The Journal, Jan. 15, 1910, p. 235.

Turner, D.: Effect and Use of Radium, *Lancet*, London, Dec. 25, 1909; abstr. in The Journal, Jan. 22, 1910, p. 324.

Chevrier, L.: Radium in Cancer, *Presse méd.*, Dec. 18, 1909.

Wickham, L.: Is Radium a Cure for Cancer? *Brit. Med. Jour.*, Dec. 18, 1909; abstr. in The Journal, Jan. 15, 1910, p. 241.

Jordan, A. C.: Use of Radium for Local Applications within the Body, *Lancet*, London, Dec. 11, 1909.

Dieffenbach, W. H.: Radium Therapy in Inoperable Tumors, *Jour. Advanced Therap.*, December, 1909.

Cheron, H.: Radium Treatment of Gynecologic Disease, *Obstétrique*, November, 1909.

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## EXAMINATION OF STOMACH CONTENTS

*To the Editor:*—The writers on stomach diseases urge a more general employment of the stomach tube as a routine procedure in general examinations. The books on laboratory diagnosis devote many pages to the chemical examination of stomach contents which is necessary to make the use of the stomach tube of value. It is obvious that this involves a laboratory equipment and expenditure of time which cannot be afforded by the busy practitioner, especially if he practices in the country. Is there not some short cut or some method of arriving at a diagnosis without so much trouble?

Enquirer, Cincinnati.

Answer.—Stomach specialists and the writers on laboratory diagnosis have unintentionally made the subject of the examination of stomach contents appear much more complicated than it really is. It is a mistake to suppose that the utility of the stomach tube in diagnosis is limited to the obtaining of stomach contents for chemical and microscopic examination. The examination of the contents with the naked eye furnishes much valuable information in a moment. One should note whether there is mucus mixed with the food, indicating gastritis, or blood which may be indicative of gastric ulcer. The presence of remnants of food from previous meals may be manifest at a glance. A very liquid content shows that there is either retention from motor insufficiency or hypersecretion. By noting the presence of a layer of very fine particles of starch, one can be almost certain that free hydrochloric acid is present. On the other hand, if the contents are in lumps and there is very little liquid, it is probable that digestion has not taken place, in consequence of the absence of hydrochloric acid. The time required for the chemical examination necessary for clinical purposes is very small. As a rule the necessary examination can be made in five minutes. The reason for this is that it has been shown that in certain cases we may omit many of the tests because we know either that the substance to be tested for is never present under the conditions already found or we may assume its presence because of one of the tests previously made. Thus, if free hydrochloric acid is found after the Ewald test meal there is no need to test for lactic acid. Indeed, as Cohnheim says, lactic acid should be tested for only in cases in which there is stagnation of the stomach contents. When free hydrochloric acid is present there is no need to test for the ferments. Therefore, in examining a specimen of stomach contents if Congo paper turns blue there is practically no need for any other examination except to determine the amount of free hydrochloric acid.

The equipment necessary for ordinary examinations of stomach contents is very small. Besides the ordinary stomach tube, one needs a 10 c.c. graduated cylinder, a 25 c.c. burette, a beaker, an evaporating dish and some test tubes; a graduated pipette might also be included. Fairly correct decinormal solution can be purchased at small cost. The physician who has no incubator can readily perform experiments for determining the amount of ferment by keeping a large amount of water in an ordinary dish pan at constant temperature by means of a small flame. We do not mean to say that cases may not arise in which more elaborate apparatus and more careful testing will be required, but the above will suffice for the majority of stomach cases and will enable the physician to obtain information by which he can base his treatment on ascertained facts instead of depending merely on symptoms, which are so uncertain as to make the treatment based on them, largely guess work.

Methods designed to facilitate the diagnosis of stomach diseases without the use of the stomach tube have been repeatedly devised, but for the most part have not justified their use in practice as reliable methods. The most recent of these is Sahli's desmoid test, described in The Journal, June 3, 1905, p. 1820, and Sept. 26, 1906, p. 975. This method is convenient, but by many is considered unreliable. At any rate, it cannot give any information as to the amount of free hydrochloric acid, a fact that is often the principal factor in determining the treatment. Much can be learned regarding the condition of the stomach from the examination of the feces but this is more troublesome to the physician than the examination of the stomach contents.

## FELLOWSHIPS AND PRIZES IN MEDICINE

*To the Editor:*—What prizes for medical work, research or clinical, are offered for the competition of American physicians?

J. G. M. B.

Answer.—A partial list of prizes and fellowships is given below. More complete information concerning each may be had by looking up The Journal reference given. The prizes given by the French Academy of Medicine are grouped together.

Kussmaul Prize: awarded every 3 years by Professor Czerny for the best therapeutic achievement, first published in German literature; a medal and $250 in money. (The Journal, Jan. 6, 1906, p. 50.)

Walker Prize, Jacksonian Prize, Cartwright Prize: awarded by Hospital P. & S., London, subjects assigned. (The Journal May 12, 1906, p. 1458.)

Fluckinger Medal: awarded by the German Apothecaries' Union every 5 years for achievements in pharmacology. (The Journal, Oct. 19, 1907, p. 1377.)

Alvarenga Prize (Philadelphia): awarded every year for best essay on any topic in medicine; $180. (The Journal, Nov. 2, 1907, p. 1536.)

Nobel Prizes: (The Journal, Dec. 28, 1907, p. 2161.)

German Colonial Society Prize: for best method of protection of cattle against tsetse fly; $1,500. (The Journal, March 28, 1908, p. 1051.)

Riberi Prize: $4,000. Awarded by the Academy of Medicine at Turin, for the best work or discovery made in the field of the medical sciences in the five years ending with 1911. Published work or manuscripts can be entered in competition, but they must be in Italian, French or Latin. Address the Segretario generale della R. Accademia di Medicina, Turin, Italy.

Bressa Prize: awarded every four years by the Academy of Sciences, Turin, for the most important scientific discovery during the interval; $2,000. (The Journal, April 4, 1908, p. 1132.)

Canizzaro Prize: awarded by the Academy of Sciences, Rome, for the best work on pure and applied chemistry; $2,000. (The Journal, July 11, 1908.)

Schaudinn Medal: for achievements in microbiology. (The Journal, July 24, 1909, p. 308.)

Cancer Research Prizes: awarded by German Central Committee; $250, $125 and $75. (The Journal, Oct. 23, 1909, p. 1411.)

National Academy Prizes: given by Mexican Government for work in typhus; $25,000. (The Journal, Nov. 20, 1909, p. 1751.)

Cozzolino Prize: for work in the relief of deafness, to be presented at the International Otology Congress at Boston, 1912; $200. (The Journal, Nov. 20, 1909, p. 1751.)

Goldberger Prize: awarded every 3 years by the Imperial Royal Society of Physicians, Vienna, for research in experimental medicine, 2,000 crowns. (The Journal, Dec. 4, 1909, p. 1922.)

George Crocker Cancer Research Fund: under supervision of Columbia University, New York; for research only; $1,500,000. (The Journal, Dec. 18, 1909, p. 2108.)

Mary Jacobi Research Fund: awarded by the Women's Medical Association of New York; $800 fellowship open to women graduates for graduate research work. (The Journal, Jan. 1, 1910, p. 60.)

Beit Memorial Fellowships: to persons of European descent, graduates of British colleges; $1,250 per year each. (The Journal, Jan. 15, 1910, p. 217.)

Barbier Prize: awarded by Paris Medical School; $400. (The Journal, Jan. 22, 1910, p. 302.)

Jeunesse Prize: awarded by Paris Medical School; $300. (The Journal, Jan. 22, 1910, p. 302.)

French Academy of Medicine Prizes: Twenty-five prizes are offered by the French National Academy of Medicine for international competition in 1911, representing a total value of about $8,000, besides the great Audiffred prize of bonds representing an annual income of $4,800, offered for a sovereign cure or effectual preventive of tuberculosis. Some of the prizes are triennial, so that in 1912 the number is 29, totaling nearly $9,000. Competing works must be in French or Latin and be received by the secretary of the Academy before March 1 of the year in question. The subjects for 1910 are not given as there is not sufficient time before they are due. The conditions for competition were related at some length in The Journal, Dec. 28, 1907, p. 2161, and the awards at the last distribution were mentioned recently in the Paris letter, Jan. 1, 1910, p. 61. For further particulars address the Secrétariat de l'Academie de Medecine, 16 Rue Bonaparte, Paris, France.

French Surgical Society Prizes: The following are to be awarded in 1910. The competing works should be addressed to the Secrétaire général de la Société nationale de chirurgie, 12, rue de la Seine, Paris, France. They must be received before Nov. 1, 1910. Articles offered for the Laborie prize must be anonymous and accompanied by an epigraph reproduced on the outside of an envelope enclosing the candidate's name, address and credentials.

Dubreuil Prize: $80, for a work on orthopedics.

Laborie Prize: $600, for an unpublished work on some surgical subject.

# *Medical Education and State Boards of Registration*

## COMING EXAMINATIONS

CONNECTICUT: Regular: City Hall, New Haven, March 8-9. Sec., Dr. Charles A. Tuttle. Homeopathic: New Haven, March 8. Sec., Dr. Edwin C. M. Hall, 82 Grand Avenue. Eclectic: 42 Meadow St., New Haven, March 8. Sec., Dr. T. S. Hodge, Torrington.
MAINE: Portland, March 8-9. Sec., Dr. Frank W. Searle, 806 Congress Street.
MASSACHUSETTS: State House, Boston, March 8-10. Sec., Dr. Edwin B. Harvey.

## Delaware December Report

Dr. H. W. Briggs, secretary of the Medical Council of Delaware, reports the written examination held at Dover and Wilmington, Dec. 14-16, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| Atlantic Medical College | (1909) | 82 |
| Baltimore Medical College | (1907) | 75 |
| University of Pennsylvania | (1908) | 92.7 |
| Jefferson Medical College | (1909) | 83.4 |
| University of Pennsylvania | (1908) | 85.4 |
| Hahnemann Med. Coll. and Hospital, Philadelphia | (1908) | 88 |
| FAILED | | |
| Medico-Chirurgical College, Philadelphia | (1909) | 70.2 |

## Virginia December Report

Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports the written and oral examination held at Lynchburg, Dec. 14-17, 1909. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 43, of whom 22 passed, including one non-graduate, and 21 failed. Eight candidates were licensed through reciprocity. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| Howard University, Washington, D. C. | (1909) | 76, 76 |
| Kentucky School of Medicine | (1908) | 75, 76 |
| Johns Hopkins University | (1906)* | |
| Baltimore Medical College | (1909) | 75 |
| Woman's Medical College of Baltimore | (1908) | 83 |
| University of the City of New York | (1894)* | |
| University of Pennsylvania | (1893)* | |
| Medico-Chirurgical College, Philadelphia | (1909) | 76 |
| Chattanooga Medical College | (1907) | 75 |
| University of the South (1907) 75; | (1909) | 75 |
| University College of Med., Richmond (1908) 79; | (1909) | 75 |
| Medical College of Virginia | (1909) | 75, 78 |
| University of Virginia (1908) 76; | (1909) | 75, 79 |
| University of Edinburgh, Scotland | (1901)* | |
| FAILED | | |
| University of Louisville | (1909) | 64, 74 |
| University of Maryland | (1909) | 72 |
| Maryland Medical College | (1909) | 66, 71, 73. |
| Med.-Chir. Coll. of Christ's Institution, Baltimore | (1908) | 55 |
| [illegible] | (1891)* | |
| [illegible] | (1894)* | |
| [illegible] | (1905) | 51 |
| [illegible] ollege | (1909) | 68 |
| [illegible] (1908) 58, 74; | (1909) | 68 |
| [illegible] (1908) 69.1, 71; | (1909) | 72, 74 |
| [illegible] (1908) 74; | (1909) | 71 |
| [illegible] Ontario | (1897)* | |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Louisville and Hospital Medical College | (1908) | Kentucky |
| New York Homeopathic Med. Coll. and Hospital | (1908) | New Hamp. |
| North Carolina Medical College | (1905) | N. Carolina |
| Univ. of Pennsylvania (1897) North Carolina; | (1898) | Dist. Colum. |
| University of Nashville (1907) Dist. Columbia; | (1907) | S. Carolina |
| University College of Medicine, Richmond | (1908) | N. Carolina |

* Took oral examination.

## Maryland December Report

Dr. J. McP. Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, Dec. 14-17, 1909. The number of subjects examined in was [illegible] red to pass, 75. The total number of [illegible] was 42, of whom 30 passed and 12 failed. Nine candidates were licensed through reciprocity and 2 under exemption clauses and by special examination. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| Howard Univ., Washington, D. C. (1908) 77; | (1909) | 79 |
| Johns Hopkins University (1907)* | (1909) | 93 |
| University of Maryland (1907)* (1908)* (1908) 77; | (1909) | 75, 77, 79, 80, 81, 90. |
| Baltimore Medical College (1906)* | (1909) | 85 |
| College of Physicians and Surgeons, Baltimore (1904)* | (1908) 85, 88; (1909) | 83. |
| Maryland Medical College | (1906)* | |
| University of Michigan, College of Medicine | (1898) | 84 |
| Jefferson Medical College, Philadelphia | (1909) | 80, 82 |
| Temple University, Philadelphia | (1909) | 77 |
| University of Pennsylvania (1908) 80, 87; | (1909)* | |
| University of the South | (1909)* | |
| University of Virginia | (1905) | 84 |
| McGill University, Montreal, Canada | (1909) | 82 |
| FAILED | | |
| George Washington University | (1907)* | |
| Howard University, Washington, D. C. | (1908) | 70 |
| Louisville Medical College | (1908) | 60 |
| University of Maryland | (1909)* | |
| Baltimore Medical College (2, 1909)* | (1909) | 72 |
| Maryland Medical College (1908)* | (3, 1909)* | |
| University of the South | (1908)* | |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| George Washington University | (1908) | W. Virginia |
| Howard University, Washington, D.C. | (1896) | Dist. Colum. |
| Maryland Medical College | (1904) | Georgia |
| College of Physicians and Surgeons, Baltimore | (1904) | W. Virginia |
| [illegible] ege of Medicine | (1875) | Dist. Colum. |
| [illegible] | (1895) | Ohio |
| [illegible] | (1893) | W. Virginia |
| [illegible] | (1881) | Kentucky |
| [illegible] | (1900) | Wisconsin |

LICENSED UNDER EXEMPTION CLAUSE AND BY SPECIAL EXAMINATION

| College | Year of Grad. |
|---|---|
| University of Maryland | (1885) |
| University of Gratz, Styria, Austria | (1900) |

* Re-examined.

## California December Report

Dr. Charles L. Tisdale, secretary of the Board of Medical Examiners of the State of California, reports the written examination held at Los Angeles, Dec. 7-10, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 97, of whom 66 passed, including 8 osteopaths, and 31 failed, including 8 osteopaths. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| College of Physicians and Surgeons, Los Angeles | (1909) | 81.7, 87.3 |
| College of Physicians and Surgeons, San Francisco | (1906) | 76.1 |
| Hahnemann Medical College of the Pacific (1903) 84.1; | (1908) | 81.4, 82.3. |
| Cooper Medical College (1908) 75.6, 79.6; | (1909) | 75.4 |
| University of Southern California (1905) 86.7; (1907) 75, 86.2; | (1909) | 77.1, 80.5, 81.4, 82.9, 87.2. |
| Yale Medical School | (1906) | 87.6 |
| Denver and Gross College of Medicine | (1904) | 86.4 |
| Medical College of Georgia | (1883) | 83.8 |
| Hahnemann Medical College and Hospital, Chicago (1886) 87.2; (1891) 82.7; (1898) 80.7; | (1901) | 78.3. |
| Northwestern University Medical School (1898) 80.5; (1907) 80.3; | (1909) | 85.4. |
| Rush Medical College (1889) 88.2; (1908) 97.5; | (1909) | 87.4 |
| College of Physicians and Surgeons, Chicago | (1909) | 82.1, 86.2 |
| State University of Iowa | (1885) | 85.5 |
| University of Kansas | (1909) | 85.4 |
| Johns Hopkins University | (1908) | 85.8 |
| University of Maryland | (1903) | 81.2 |
| Boston University | (1895) | 83 9 |
| Harvard Medical School (1891) 81.4; (1898) 75.6; | (1902) | 75.1 |
| Tufts College Medical School | (1907) | 81.9 |
| University of Michigan, Coll. of Med. (1891) 79; | (1902) | 81.3 |
| University of Michigan, Homeopathic College | (1908) | 83.4 |
| Univ. of Minnesota, Coll. of Med. (1894) 90.9; | (1908) | 75 |
| [illegible] of Missouri | (1898) | 80 |
| [illegible] icine | (1897) | 83.9 |
| [illegible] ollege | (1909) | 85.5 |
| [illegible] Coll. and Hospital | (1905) | 75.2 |
| [illegible] (1893) 80; | (1895) | 80 |
| [illegible] Philadelphia | (1901) | 75 |
| [illegible] Medical College | (1902) | 80.1 |
| Medico-Chirurgical College, Philadelphia | (1901) | 80.6 |
| McGill University, Quebec | (1905) | 76.3 |
| Western University, London, Ontario | (1899) | 84.4 |
| University of Heidelberg, Germany | (1907) | 89.6 |
| FAILED | | |
| University of Southern California | (1908) | 71.7 |
| Coll. of Physicians and Surgeons, San Francisco (1902) 42.9; (1906) 72.7; (1907) 71; | (1909) | 66.5. |
| Cooper Medical College (1908) 71.8; | (1909) | 68.1 |
| College of Physicians and Surgeons, Chicago | (1904) | 49.4 |
| Rush Medical College | (1895) | 67.8 |
| Northwestern University Women's Medical School | (1890) | 73.5 |
| College of Physicians and Surgeon, Keokuk | (1880) | 43.8 |
| Kentucky School of Medicine (1889) 66.8, 71.2; | (1894) | 69.7 |
| University of Maryland | (1909) | 68.4 |
| Michigan College of Medicine, Detroit | (1881) | 19.6 |
| University of Michigan, Coll. of Med. (1880) 56.8; | (1895) | 71.5 |
| Kansas City Medical College | (1891) | 76.2 |
| Jefferson Med. Coll. (1890) 73; (1894) 69.4; | (1895) | 59.6 |
| University of Turin, Italy | (1899) | 18.7 |

## Marriages

Louis A. Greensfelder, M.D., to Miss Ethel Grace Rooks, both of Chicago, February 7.

Wunibald John Probst, M.D., to Miss Magdalene Elizabeth Lingenfelser, both of Pittsburg, Pa., February 3.

Alfred G. Farmer, M.D., Corozal, C. Z., to Miss Minnie L. Cuckler, of Athens, Ohio, at Cristobal, C. Z., January 20.

William Joseph Circe, M.D., Carson City, Nev., to Miss Ella Dudley, of San Francisco, at Reno, Nev., February 1.

George Elmer Krout, M.D., Jacobus, Pa., to Miss Beulah Hildebrand, of Loganville, Pa., at Bloomsburg, Pa., January 6.

## Deaths

**Frederick Wentworth Mercer, M.D.** College of Physicians and Surgeons, New York City, 1862; a member of the American Medical Association, British Medical Association, American Microscopical Association; vice-president of the Illinois Microscopical Society; and a fellow of the Royal Microscopical Society of England; major and surgeon of the Twentieth Massachusetts Volunteer Infantry during the Civil War; for some time medical superintendent of the Illinois State Soldiers' Home; assistant physician at the Anna State Hospital from 1873-1879; died at his home in Chicago, February 9, from heart disease, aged 71.

**George Edmund Brickett, M.D.** Dartmouth Medical School, 1847; assistant surgeon of the Third and surgeon of the Twenty-first Maine Volunteer Infantry during the Civil War; from 1863-1865 surgeon in charge of the Cony United States General Hospital, Augusta, Maine, and from 1864-1892, attending surgeon to the Kennebec arsenal; from 1874-1888, local pension examining surgeon; representative from Kennebec county in the state legislature in 1868 and 1869; died at his home in Augusta, January 28, from cerebral hemorrhage, aged 85.

**John Alfred Westlake, M.D.** New York University, New York City, 1877; a member of the Medical Society of the State of New York; a veteran of the Civil War; for two years surgeon to the Northern Central Railroad, and later to the Northern Pacific Railroad in St. Paul, Minn.; since 1886 a resident of Elmira, N. Y.; coroner of Chemung county; for about ten years physician in charge of the Westlake Hospital; died at his home, January 31, from uremia, aged 63.

**William A. Gordon, M.D.** Rush Medical College, Chicago, 1856; surgeon of the Tenth Wisconsin Volunteer Infantry and later brevet major, U. S. Volunteers, during the Civil War; formerly secretary of the U. S. Army Medical Examining Board of the Army of the Cumberland; a specialist in diseases of the eye, ear, nose and throat; died at his home in Mountain View, Cal., January 28, from senile debility, aged 75.

**Ira A. Thayer, M.D.** Eclectic Medical Institute, Cincinnati, 1866; surgeon in the volunteer service during the Civil War; for twenty-five years pastor of a church in New Castle, Pa.; and later for several years a lecturer for the State Agriculture Department, and city food inspector of New Castle; died at his home, January 24, from uremia, aged 61.

**Raphael Owen Semmes, M.D.** University of Alabama, Mobile, 1901; formerly a member of the American Medical Association; a member of the Medical Association of the State of Alabama; health officer of Wilcox county; died at his home in Rock West, Camden, January 20, from chronic nephritis, aged 30.

**Andrew S. Russell, M.D.** University of Pennsylvania, 1892; a member of the American Medical Association; of Duquesne, Ariz.; was shot and instantly killed January 28, at Washington, a mining camp, twenty miles east of Nogales, by a retired army officer who is believed to be insane, aged 45.

**Frederick A. Wright, M.D.** Bellevue Medical College, 1871; health officer and a member of the Board of Education of Glen Cove, N. Y., for several years, and postmaster of the city since 1898; died at the home of his daughter in Newark, N. J., January 30, from cancer, aged 63.

**Samuel Wexlar, M.D.** University of Pennsylvania, 1908; chief resident physician of the Mount Sinai Hospital, Philadelphia, and a member of the Southwark Medical Society; died February 1, in the Mount Sinai Hospital, two days after an operation for appendicitis, aged 28.

**Francis McConnell Christy, M.D.** University of Pennsylvania, 1882; of Altoona, Pa.; a member of the Medical Society of the State of Pennsylvania; for several years surgeon in the National Guard; died at the home of his father-in-law in Lancaster, Pa., January 29, aged 50.

**Millson Raleigh Allen, M.D.** Hahnemann Medical College, Philadelphia, 1887; formerly president of the Virginia Homeopathic Society, and a member of the State Board of Medical Examiners; died at his home in Norfolk, February 2, from bronchial asthma, aged 48.

**William Penn Compton, M.D.** Georgetown University, Washington, D. C., 1889; professor of laryngology and rhinology in his alma mater; of Washington, D. C.; died suddenly February 1, from angina pectoris while at the bedside of a patient.

**James Castle Patterson, M.D.** University of Tennessee, Nashville, 1894; of Wanette, Okla.; a member of the Oklahoma State Medical Association; died in a sanatorium at Silver City, N. M., January 28, from tuberculosis, aged 38.

**Ernest H. Plasch, M.D.** University of Berlin, Germany; formerly of German Valley and Mount Carroll, Ill.; a practitioner of Illinois since 1873; died at the home of his daughter in Mount Carroll, February 3, from dropsy, aged 71.

**William H. Blakeley, M.D.** Homeopathic Medical College of Missouri, St. Louis, 1866; New York Homeopathic Medical College and Hospital, 1871; died at his home in Bowling Green, Ky., January 25, from acute gastritis, aged 68.

**Joseph Theophilus Howard, M.D.** Georgetown University, Washington, D. C., 1859; a member of the American Medical Association; died suddenly at his home in Washington, January 30, from pneumonia, aged 77.

**William Beall, M.D.** Medical Department of Columbian College, Washington, D. C., 1846; from 1872 to 1881, a clergyman of the United Brethren church; died at his home in Rock Gap, W. Va., January 30, aged 88.

**Randolph Spalding Kenan, M.D.** Atlanta Medical College, 1895; of Savannah; a member of the Medical Association of Georgia; died at the home of his sister in Darien, Ga., February 3, from nephritis, aged 44.

**Augustus A. Fahnestock, M.D.** Hahnemann Medical College, Chicago, 1865; of Laporte, Ind.; died at the home of his brother in Marion, Ind., February 7, from the effects of a fall down a stairway, aged 76.

**William L. White, M.D.** University of Oregon, Portland, 1890; of Pullman, Wash.; a member of the Washington State Medical Association; died in Fabiola Hospital, Oakland, Cal., January 26, from tuberculosis.

**Rollin B. Gray, M.D.** New York Homeopathic Medical College, 1871; of the Borough of Queens, N. Y.; died at the home of his daughter in East Orange, N. J., February 5, from cerebral hemorrhage, aged 69.

**Frederick O. Chamberlain, M.D.** Yale University, New Haven, 1891; Paris Medical School, 1894; a member of the San Francisco Stock and Exchange Board; died in that city, Dec. 5, 1909, from brain disease.

**Thomas A. R. Keech, M.D.** University of Maryland, 1856; a member of the Medical Association of the District of Columbia; died at his home in Washington, D. C., January 29, from arteriosclerosis, aged 76.

**Thomas M. Graves** (license, Ky., 49 years practice, 1893); for more than fifty years a practitioner of Calloway county, Ky.; died at his home in West Murray, January 28, from senile debility, aged 85.

**William E. Mattingly, M.D.** University of Louisville, 1869; a member of the American Medical Association; died suddenly at his home in Lebanon, February 1, from valvular heart disease, aged 66.

**Jeremiah T. Tucker, M.D.** Memphis Hospital Medical College, 1892; a member of the Van Zandt County (Texas) Medical Society; died at his home in Wills Point, January 27, from smallpox, aged 47.

**Hiram A. Burrows, M.D.** Louisville Medical College, 1885; a member of the State Medical Association of Texas; died at his home in New Boston, February 1, from heart disease, aged 45.

**Helen Maria Bingham, M.D.** Boston University, School of Medicine, 1881; for several years a practitioner of Milwaukee; died at the home of her mother in Monroe, Wis., January 27, aged 65.

**Joseph C. Marshall, M.D.** University of Pennsylvania, 1870; a member of the Medical Society of the State of New Jersey; died at his home in Tuckahoe, Dec. 1, 1909, from pancreatitis, aged 61.

**John H. Fawcett, M.D.** Missouri Medical College, St. Louis, 1874; formerly of Grant Park, Ill.; a veteran of the Civil War; died at his home in Ashland, Ore., Feb. 22, 1909, aged 69.

**Andrew Harscher, M.D.** Marions-Sims Medical College, St. Louis, 1896; a member of the Missouri State Medical Association; died at his home in St. Louis, January 26, aged 43.

**William Lawrence Woodruff, M.D.** Hahnemann Medical College, Philadelphia, 1882; of Long Beach, Cal.; died at his home February 4, from pulmonary hemorrhage, aged 49.

**Weldon Alfred Dickson, M.D.** College of Physicians and Surgeons, Baltimore, 1886; died at his home in Salamanca, N. Y., February 3, from rheumatic endocarditis, aged 52.

**Laura E. Stockdale, M.D.** Chicago Homeopathic Medical College, 1880; one of the early women practitioners of Denver; died at her home in that city, January 27, aged 67.

**Arthur A. Browne, M.D.** McGill University, Montreal, 1872; for many years a member of the faculty of his alma mater; died at his home in Montreal, January 26, aged 62.

**John Adam Fleischer, M.D.** University of Virginia, Charlottesville, 1908; died at his home in Meadow Dale, Highland county, W. Va., January 23, aged 29.

**Charles B. Davis, M.D.** Bennett Medical College, Chicago, 1869; died at the home of his son in Salem, Mo., January 16, from organic heart disease, aged 75.

**Henry G. Wheeler** (license, Ill., years of practice, 1880); a veteran of the Civil War; died at his home in Breckenridge, Ill., Nov. 21, 1909, aged 67.

**Edward W. Day, M.D.** University of Maryland, Baltimore, 1853; of Vacaville, Cal.; died in St. Joseph's Hospital, San Francisco, March 25, 1909.

**Harry Weston Merrill, M.D.** Rush Medical College, 1883; died at his home in Maywood, Ill., February 2, from cerebral hemorrhage, aged 53.

**Meade M. Loucks, M.D.** University of Pennsylvania, 1895; died in his apartments in Wilkinsburg, Pa., February 2, from pneumonia, aged 45.

**Robert S. Payne, M.D.** Louisville Medical College, 1871; died at his home in Stamping Ground, Ky., February 2, from brain disease, aged 69.

**A. C. Hatfield** (license, years of practice, Ill., 1878); died at his home in Adair, January 27, from valvular heart disease, aged 64.

**O'Connell Fairhurst, M.D.** Bellevue Hospital Medical College, 1870; died at his home in Vincennes, Ind., January 24, from heart disease.

**Edward I. Hirschfeld, M.D.** Illinois Medical College, 1909; died at the North Shore Health Resort, Winnetka, February 6, aged 44.

**William C. H. Henkel, M.D.** University of Jena, 1852; died at his home in Baltimore, January 30, from senile debility, aged 82.

## *Medical Economics*

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

### The Legal Status of the Texas Practice Act

The new Texas medical practice act has been upheld in practically all the legal tests to which it has been subjected, as shown in an editorial in the February issue of the *Texas State Journal of Medicine*. The decision in the case of Collins, an osteopath, upheld its constitutionality and decided that all who treat disease, by whatever method, are included in the definition of a medical practitioner. In the case of Morse the board was upheld in refusing a license for fraud and unprofessional conduct. As a result of the Newman case it was decided that a masseur, if holding himself out to treat disease, must have a medical license. This does not interfere with masseurs, however, in their recognized sphere of labor, but does away with a lot of unqualified practitioners. The case of Wickes-Nease vs. Watts brought a decision that the requirement of registration of physicians was not illegal on the ground that it was "retroactive" and that the holder of a certificate to be a legal practitioner must conform to each succeeding requirement of the legislature. In the case of Ray, the board was upheld in its refusal to raise his grade since fraud or discrimination by the board was not proved. The suit of Dr. A. C. Bell to compel recognition of the College of Physicians and Surgeons has been allowed to go by without a cost bond.

Although the new practice act is scarcely two years old, the fact that it has already been put through so many tests is in itself evidence that the new board has been carrying out its provisions. It has been a decided power for good in medical registration and has placed Texas among the leading states in the enforcement of fair educational standards for all practitioners regardless of the methods of treatment to be employed.

### Legislative Notes

#### MASSACHUSETTS

The following bills have been introduced into the Massachusetts legislature: *House Bills:* 134, to require practitioners of Eddyism, hypnotism and certain kinds of healing to register; 182, to make communications between physicians and patients privileged; 192, to authorize persons qualified to practice medicine in other states to practice medicine in Massachusetts; 193, to make members of the Board of Registration in Medicine ineligible to reappointment; 295, to appropriate one thousand ($1,000) for small traveling school tuberculosis exhibits to be used in the public schools throughout the state for instruction in hygiene and the prevention of tuberculosis; 296, to empower city councils to levy a tax for the erection and maintenance of public tuberculosis sanatoria; 386, to extend the duties of the board of education so as to include supervision of medicine, dentistry and pharmacy; 416, to regulate the sale of opium, morphin and other narcotics; 417, to require the State Board of Health to make, free of charge, chemical analyses of preparations suspected of containing cocain, alpha or beta eucain, or any substance submitted to it by the police authorities or charitable organizations, provided the analysis is to be used for the enforcement of the law; 513, to provide for legislation relative to the practice of healing by unregistered physicians—this bill accompanies the petition of the Massachusetts State Association of Spiritualists on this point; 657, to provide for an investigation as to the increase of criminals, mental defectives, epileptics and degenerates; 660, to provide for the prevention of the dissemination of disease through the improper use of wallpaper; 736, to authorize town boards of health to appoint school physicians; 828, to authorize town and city boards of health to vaccinate school children without charge; 887, to provide for the preparation of a code of medical instruction for use in the public schools.

Dr. M. W. Richardson, secretary of the Massachusetts State Board of Health, has submitted a special report on rabies as House Document 236, in which he reports that in 1904 there were no cases of rabies in Massachusetts. In 1905, there were 103 cases; 1906, 337 cases; 1907, 778 cases; 1908, 557; 1909, up to December 1, 168 cases, of which the following number were human: 1905, 12 cases; 1906, 110 cases; 1907, 184 cases; 1908, 134 cases; 1909 up to October 27, 77 cases. From 1905 to 1909 inclusive, 19 human beings have died in Massachusetts of rabies. Dr. Richardson concludes that the disease and the present epidemic reached its maximum in 1907 and is now decreasing. Most of the patients were treated at the State Alms House at Tewkesbury, at the Boston City Hospital or at the Pasteur Institute in New York. The expense has averaged about $20 per case. Dr. Richardson estimates that it would cost the state about $5,000 a year to manufacture and distribute its own serum, while inoculation material could be secured from the United States Public Health and Marine-Hospital Service at an annual expense of about $2,000 a year.

Dr. Richardson also submits a report on food and drug inspection for the year ending 1909, showing a total of 7,337 examinations of food and drugs during the year which resulted in 296 prosecutions. Of these, 267 resulted in conviction, 14 in acquittal, 2 were *nolle-prossed* and 13 were dismissed on motion of the inspector; 18 cases are at present pending on appeal to the superior court. The fines imposed amounted to $566.74. Most of the prosecutions were for the sale of milk below the standard.

The Board of Registration in Medicine submitted its annual report under the title of Public Document 56, showing that during the previous year 293 persons had applied for registration, all of whom had been examined except 12. Of this number 270 were graduates of medical schools and 23 were undergraduates. Two hundred and sixty-one graduates were examined, of which 220 were *registered*, 201 by *first examination* and 19 by reexamination; 41 graduates were rejected.

### OHIO

Several medical bills have been introduced into the Ohio legislature, among them a bill to exempt from prosecution any woman who shall testify against a physician as having induced an abortion on her; also a bill to provide for sterilization of criminals and defectives. An antivendors bill, to restrict the free distribution of samples of medicine, as well as a bill to restrict medical advertising in newspapers, have also been introduced. One of the most important is a bill to authorize the Ohio State Board of Health to distribute free antitoxin.

### MISSISSIPPI

The legislative committee of the Mississippi State Medical Association has secured the introduction of a bill to provide for the collection and recording of vital statistics in all cities and towns in the state having a population of 1,000 or over. Provision is made for a certificate of death of the standard form, to be filed with the local registrar by the undertaker, a burial permit being issued thereon. The bill is entirely satisfactory so far as it goes. It was the judgment of the legislative committee that it was not wise to advocate vital statistics legislation covering the entire state but that it would be well to inaugurate it first in cities of 1,000 and over, and later, if desirable, to extend its operation to the rural districts. It is earnestly hoped that this bill will pass as it will mark the beginning of adequate vital statistics legislation in the Southern states.

## POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

*General Subject for the Month: Tuberculosis*

### Seventh Month—First Weekly Meeting

### Diagnosis of Tuberculosis

Pulmonary Tuberculosis: Early Symptoms and Signs: Family History.—Heredity, predisposition, opportunity for infection; previous diseases. Clinical History.—Malaise, cough, loss of weight, fever, nervous symptoms, respiration, sputum, increased pulse, gastrointestinal symptoms, hemoptysis, night sweats. Physical Examination: Inspection.—Character of respiration, shape and size of thorax, unilateral irregularities, lagging, cardiovascular changes; pupils, gums, larynx, mucous membranes. Palpation.—Vocal fremitus, normal variations in apices, palpable rhonchi and friction sounds. Percussion.—Normal variations in apices, regional differences, normal resonance, intensity, pitch and quality, changes in resonance, intensity, quality and pitch found in early stage. Auscultation.—Normal breath sounds, voice sounds, regional differences, normal disparity between apices; rough breathing, weak breathing, prolonged expiration, puerile breathing, cogwheel breathing; unilateral râles, pleural sounds.

Cases with Moderate Involvement: Clinical history, sputum, changes noted on inspection, on palpation, percussion, auscultation.

Advanced Cases: Characteristic clinical picture, physical signs on inspection, palpation, percussion and auscultation.

REFERENCE BOOKS FOR THE SEVENTH MONTH

Klebs: American Treatise on Tuberculosis.
Bonney: Pulmonary Tuberculosis and Its Complications.
Pottenger: Pulmonary Tuberculosis.
Wolff-Eisner: Ophthalmic and Cutaneous Diagnosis of Tuberculosis.
Cornet: Miliary Tuberculosis.
Transactions International Congress on Tuberculosis.
Knopf: Essay on Tuberculosis.
Allbutt's System of Medicine.
Nothnagel's Practice; volume on Tuberculosis.

# Book Notices

A System of Operative Surgery. By Various Authors. Edited by F. F. Burghard, M.S., F.R.C.S., Teacher of Operative Surgery in King's College, London. In Four Volumes. Vols. II and IV. Cloth. Price, per volume, $10. New York: Oxford University Press, 1909.

The second volume of this system deals with operations for tuberculous affections of the bones and joints; with operations on the lips, face and jaws; with operations on the tongue, tonsils, pharynx and esophagus; and with operations on the stomach and intestines.

The chapter contributed by Stiles on operations for tuberculous affections of bones is well done. He deals with the indications for different types of operation and shows the value of the *x*-ray in all these conditions, indicating as it does the extent of the operation to be performed. The value of the chapter by Butlin on the surgical procedures on the tongue, tonsils and pharynx is due to the fact that personal experiences are related by a surgeon who undoubtedly has had more experience than any other with the lesions under discussion.

The chapters on the stomach are good, but the surgery of this organ has been discussed so much of late that little which is new can be added. Moynihan describes methods which are commonly employed by American surgeons, the efficacy of which are no longer doubted. It is interesting that he notes the frequency with which the beginning of the jejunum passes downward and to the right—an anatomic position apparently not noted by the majority of American surgeons. He favors a vertical position of the loop in making the anastomosis. It is pleasing to note that the following statement is made early in the paragraphs devoted to gastro-enterostomy. "Gastro-enterostomy must not be done for the relief of symptoms unless there is a demonstrable organic cause for them in the stomach or duodenum. Symptomatic gastro-enterostomy, if one may use the expression, cannot be too strongly condemned."

The chapters dealing with the operative surgery of the intestines are comprehensive. We are sorry the author has not seen fit to emphasize more strongly the advantages of early operation for appendicitis. He mentions certain signs and symptoms which speak for an operation, but fails to mention that in no other disease are the symptoms and signs so fallacious. The reduction of mortality following the early operation is the best indication of its efficacy.

The value of the imbrication operation in hernia is noted in the chapter devoted to this subject, but Andrews does not receive the credit for the introduction of this principle. The Andrews operation as it is generally employed throughout the middle West is certainly the most satisfactory one yet devised.

The fourth and last volume deals with operations on the female genitalia; with ophthalmic operations and operations on the ear; with operations on the larynx and trachea, nose and accessory sinuses. The chapter contributed by Bland-Sutton on operations on the female genital organs is good. The chapter by Hammar on operations on the larynx and trachea demands careful perusal.

This system of operative surgery supplies to the medical profession a long-felt need, as it combines a detailed account of the indications for surgical interference with a clear description of the method to be employed. The list of contributors is sufficient guarantee of the completeness and character of the system. The subjects are dealt with tersely and while, as in all systems, there are some chapters which do not reach the high standard set by others, it is much more evenly written than is generally the case.

A Practical Treatise on Rectal Diseases: Their Diagnosis and Treatment. By J. D. Albright, M.D. *Cloth. Pp. 455*, with illustrations. Price, $4. Philadelphia: J. D. Albright, 1909.

The growing vogue of office or "ambulant" methods of treatment of rectal diseases is largely due to the improvement in technic of local and regional anesthesia, which makes possible the performance of slight operations without confining the patient to bed, or, what appears to be of more importance to-day, without keeping him from business It would seem that the hitherto well-established belief that rest was beneficial to patients after surgical operations must give way to the high pressure of modern life.

The author, after lamenting the lack of proper instruction of the medical profession in the matter of diagnosis and treatment of diseases of the rectum, makes roseate claims for the consideration of his specialty by the general practitioner as follows: "There is no specialty in medicine in which the material is so plentiful, the indications for treatment more clearly defined, the results more generally satisfactory, the patients more uniformly grateful and the certainty of proper remuneration more absolute. This, indeed, is the field for the specialist; restricted, yet extensive; exceptionally fertile and copiously fruitful." The commercial idea crops out again on page 170 where business ethics are rated higher than professional ethics. In his description of proctitis, periproctitis, hemorrhoids, pruritis ani and fissure, the author puts forth some startling pathologic views which will certainly need some scientific verification before being generally accepted by the profession. Proctitis and periproctitis as described by him constitute a condition of inflammation which is not confined to the surface of the rectal mucosa but involves the areolar and muscular coats and passes through them into the perirectal tissues. The mucous or seromucous exudate may be superficial enough, he says, to form pouches or sacs which are easily recognized during an examination. Deeper collections of this exudate, after a time, burrow in the direction of the least resistance and form channels in various directions and of considerable length. The irritating character of the exudate in the superficial sacs sets up increased cellular activity, cell proliferation, adventitious tissue formation and increased blood supply until, in due course of time, it becomes a perfectly organized body, known as an internal hemorrhoid. "Mucous exudation, occupying the space between the sphincter muscle and the anal integument, produces edematous thickening of the mucocutaneous folds, between the latter deep, tender and fragile crevices are formed, and, when sufficient dilatation of the anus occurs, it tears at its weakest point" and thus begins fissure. The idea of an acrid mucous exudate passing through the rectal walls and later increasing in quantity by secretion from the perirectal tissues is certainly novel but not proved.

Dr. Albright is an enthusiastic believer in the "orificial principle" and of it reverently speaks as "one who fully realizes that he has but sipped at the fountain which holds in its immeasurable depths the key to an untold and unanticipated wealth of experimental knowledge." The book is florid in style, frequently ungrammatical, but undoubtedly sets forth the author's methods for the ambulant treatment of diseases of the rectum.

MANUAL OF MILITARY HYGIENE for the Military Services of the United States. By Valery Havard, M.D., Colonel, Medical Corps, United States Army. Cloth. Pp. 481, with illustrations. Price, $4. New York: William Wood & Co., 1909.

Colonel Havard has well rounded out a life spent in the service of his country, by giving to the military branch of the medical profession a valuable work on military hygiene, condensed and yet comprehensive. Probably no officer of the Medical Corps of the Army has had better opportunities for the study of this subject, and no one could have employed his opportunities to greater advantage. The best evidence of this fact is the volume itself. The dominant feature of the book is that it is practical and original. Authorities have been carefully studied and analyzed, hypotheses and generalities have been excluded and only facts retained; and these facts are presented concisely, in entertaining form, and in excellent English. Havard properly takes up first the question of mortality and morbidity in the military service, as the prevention of disease and death should be the first duty of the military officer. This subject he discusses fully, making use of statistics of various nations, analyzing and comparing them, and drawing valuable deductions. The sanitary service of armies is now universally conceded to be an essential part of their organization, of vital importance as it decreases the depletion of ranks from disease and increases the fighting strength to its utmost. To accomplish this result the cooperation of officers of the line and the soldiers themselves is most necessary, and he urges instruction in hygiene to this end. Not only in the army, but in the organized militia should this work be carried on. Much space is given to the mosquito and this section is freely illustrated. Infections, parasitic and venereal diseases are briefly but succinctly considered. Next in logical sequence comes the question of the recruit, his selection, physical examination, and then the exercises which he takes, the march, and the various hygienic influences to which he is subjected. The subjects of water purification, food, rations, clothing and equipment, posts, barracks and quarters are thoroughly discussed; the questions of air, ventilation, heating and lighting are considered briefly and yet clearly. Under the heading of the disposal of excreta, garbage, and wastes, the author takes up the various incinerators and crematories which are at present in use and being exploited. He describes under the heading of camps, the various systems of tentage, winter quarters, portable hospitals, pavilions, and the formation of camps and field hospitals and their equipment. Under the conditions imposed on the United States by its recently acquired possessions, service in tropical climates and in the Arctic regions becomes necessary, and these matters are taken up in separate chapter headings by the author who discusses the class of recruits to be sent to hot and cold climates, the modification of dress, uniform, rations, etc., for this service. The closing chapter of the book is on naval and marine hygiene. Taken as a whole Colonel Havard's manual is a most readable book. Although it treats of subjects ordinarily considered uninteresting, he has made it not only valuable but also entertaining. We do not understand why the publishers should have found it necessary to print the entire book on heavy filled paper, thereby greatly increasing its weight, when light paper might as well have been used for the major portion.

PARENTHOOD AND RACE CULTURE: An Outline of Eugenics. By Caleb Williams Saleeby, M.D., Ch.B., F.Z.R., Edin., Fellow of the Royal Society of Edinburgh. Cloth. Pp. 389. Price, $2.50, net. New York: Moffat Yard and Company, 1909.

Dr. Saleeby's book is dedicated to Francis Galton, whose spirit is omnipresent through the whole work. The first part is devoted to an explanation of the theory of eugenics; the second to the practice of the new science. The book is characterized by a spirit of optimism which is possible only to those who can succeed in persuading themselves that the human race needs only to be shown the right way in order to follow it. According to Dr. Saleeby, it would almost be sufficient to diffuse the knowledge of eugenics in order to stop the propagation of the weak, the feeble-minded and the otherwise unfit. To most students of human nature this assumption will seem unwarranted. Scientists have been preaching for years in vain against prejudices and instincts not nearly so deeply rooted as is the instinct of sex attraction and of procreation. One is inclined to believe that the gospel of eugenics so enthusiastically preached by Dr. Saleeby will reach only those of sensitive conscience and high ideals, while the morally unfit will remain callous to its appeal. The book is written in rather a polemic spirit, but there is much of value and interest in it. The controversy over the inheritance of acquired characteristics is fully discussed and the relation of alcoholism in the parent to degeneracy in the offspring is dealt with in the spirit of Fowl. Two chapters are devoted to the refutation of the generally held view as to the decadence of nations, Dr. Saleeby taking here also an optimistic stand.

MEDICAL GYNECOLOGY. By Samuel Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists. Second Edition. Cloth. Pp. 684, with illustrations. Price, $5. Philadelphia: W. B. Saunders Co., 1909.

This book gives in detail many methods of non-surgical treatment. The hints on bacteriologic diagnosis are simplified and comprehensive. The discription of palpation of the ureters without previous catheterization is rather misleading, and the author's routine treatment of abortion is hardly abreast with the latest views, while the indiscriminate recommendation of invading the uterus by packing and douches is not unattended with danger. In view of the late theories of involution, the generally accepted fact is that it is probably a chemical rather than a degenerative change, but this does not diminish the author's valuable suggestions on the prevention of subinvolution. The subjects of atmocausis, pelvic massage, abdominal supports, and local and general hydrotherapy, with their indications, are handled with unusual ability. The positive statements in regard to electrotherapeutics, with definite indications, is convincing and demands the attention of those who are prejudiced against this method of therapeutics. The author's position on the latest views of cancer and fibroids of the uterus, and their radical removal on diagnosis compels respect for his views on other subjects.

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This is a carefully prepared and satisfactory text-book of an advanced type and original character. Laboratory diagnosis is considered first, followed by chapters on the application of *x*-rays in surgical diagnosis, inflammation, complications and sequels of trauma and tumors. Then come the systems; skin, blood-vessels, lymph-vessels and glands, muscles, tendons and bursæ, bones and joints and nervous system. Finally the body is taken up regionally, in the conventional order, starting with the head, face and neck, following with the different regions of the trunk, the extremities, and ending with the genitourinary organs and gynecologic diagnosis.

The illustrations form an important feature of the work and are chosen for their instructiveness rather than for artistic embellishment. They are well reproduced, with the exception of a few *x*-ray half-tones whose teaching is lost in their present indistinctness.

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Text-Book of Medical and Pharmaceutical Chemistry. By Elias H. Bartley, M.D., Professor of Chemistry, Toxicology, and Pediatrics in Long Island College Hospital. Pp. 734, with illustrations. Cloth. Price, $3 net. Philadelphia: P. Blakiston's Son & Co., 1909.

This is practically identical with the sixth edition, except that some pages in the chapters on organic and physiologic chemistry have been rewritten—the more complete revision being made in the section on proteids. The nomenclature and the classification of the proteids have been changed to conform to the nomenclature recommended by the American Physiological Society and Society of Biological Chemists.

The Training of Children From Cradle to School. By Mrs. H. C. Cradock. Cloth. Pp. 91. Price, 60 cents. London: George Bell and Sons, 1909.

This book is intended for the guidance and help of young mothers and teachers, and deals with the training of children in a sane and practical way. The qualities necessary in a nurse are discussed, the physical needs of the child are dealt with, and the necessity for plenty of fresh air emphasized. Three chapters are given up to "Moral and Religious Training," and as the author states, there is much in these chapters with which many parents will disagree. All parents, however, might read this book with profit.

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## MEDICAL SOCIETY OF THE STATE OF NEW YORK

*One Hundred and Fourth Annual Meeting, held at Albany, Jan. 25-26, 1910*

*(Continued from page 558)*

### Anemia

Dr. Charles O. Boswell, Rochester: In determining which class of anemia is present, all clinical facts that can be gathered together must be considered, and the patient's previous history and the results of physical examination are just as important as the examination of the blood itself. The type of anemia cannot always be positively differentiated from the blood picture alone. Chlorosis is the least common and fatal type; that it is becoming less common in this country is the opinion of many hematologists. In one of my cases the appearance of the disease followed an attack of tonsillitis, the most important point in the history being the gradual and definite onset in a previously well person nearing middle life. Keeping in mind the marked tendency to remission, the period of seeming recovery must not prejudice the diagnosis. I have one patient under observation whose red count has risen in six months from 1,215,000 to 2,750,000 cells; the hemoglobin varied from 50 per cent. to 70 per cent., so that the index at the last count was 1.1, as against 1.9 at first. About three years is the extreme limit of life in the case of pernicious anemia. As opposed to chlorosis, it is known that pernicious anemia has a fairly definite pathology.

#### DISCUSSION

Dr. Egbert LeFevre, New York: There is a type of pernicious anemia that goes through the stages of secondary anemia, where it passes into the pernicious type, with an ideal blood picture. I recall one patient who came into the hospital, after having gone to other hospitals, with a diagnosis of progressive pernicious anemia. There were certain features about this case of the idiopathic type. Search of the stools, at first, failed to give any light, but remembering that sometimes these cases occur from absorption from the intestinal canal, which is developed through the death and decomposition of the *Bothriocephalus latus*, a search was made for the ova of this worm. This failed at the time, but I introduced into the intestinal canal large doses of binoxid of magnesia, five grains, four times a day, and within two weeks the blood picture changed completely, passing to the secondary anemic type, followed by recovery.

Six months later a man, a private patient, who had traveled extensively, came from abroad with a diagnosis of pernicious anemia; he came home to die. He gave an indefinite history of intestinal irritation, but the symptoms suggested a parasitic condition. Having the other case in mind, I put this man on a similar plan of treatment and had the same reaction, so that in a short time he passed from the pernicious to the simple type of anemia, and recovered.

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The remarks of the author of the paper as to the infrequency of chlorosis and pernicious anemia are based on hospital experience. General practitioners see these cases in their offices rather frequently, so that chlorosis is by no means so rare as one would conclude from the remarks of the author of the paper. Patients with chlorosis, as a rule, are not admitted to hospitals, and the hospital physician does not see them. Individuals with pernicious anemia, however, must find refuge in hospitals. The number of cases of pernicious anmeia has not been over-estimated when contrasted with chlorosis. There are some cases of chlorosis which will resist all attempts of treatment.

### The United States Pharmacopeia: Its Present Status and the Coming Revision

Dr. Eli H. Long, Buffalo: With the last revision the standard character of the book was enhanced in a practical way by including the average dose of each drug and preparation for internal use. The trend of therapeutics along new lines was recognized in the introduction of antidiphtheritic serum and desiccated thyroid and suprarenal glands. These additions indicate that the work of the revisers went just so far in the introduction of new features as the status of our knowledge and experience, tempered by wise conservatism, would permit. In the interest of a simplified materia medica it is important that in the next revision all drugs that are nearly obsolete and those of slight medicinal value should be eliminated. With each past revision, numerous articles have been discarded and others admitted, but too many inferior drugs have been retained. At present, elimination is needed more than addition, though a number of new remedies of approved value should be admitted. In addition to valueless drugs, a number of preparations and unimportant salts can be dispensed with. The list suggested by the committee of the Section on Practice of Medicine of the American Medical Association indicates about what can be properly done in the way of elimination. The practical value of the Pharmacopeia to practitioner and student would further be increased if incompatibles could be mentioned in connection with each substance and preparation. To the same end the chemical tests of substances might possibly be diminished.

### Elements of Prognosis in Valvular Diseases of the Heart

Dr. R. Abrahams, New York: Young people of from twenty to thirty years of age, in whom arterial changes antedate the development of valvular diseases offer a poor prognosis. Young people of from twenty to thirty with valvular disease, who show subsequently arterial changes, are as bad. Patients of this class are greatly on the increase. Young people with valvular disease, but with no sign of arterial changes, can count on a good prognosis. Middle-aged people, those from 30 to 50, with valvular disease will stand well the hardening process of the arteries so long as the vascular apparatus of the kidneys remains unaffected. The prognosis becomes more and more unfavorable in proportion to the changes in the renal blood vessels. People beyond 60 rarely acquire valvular disease through the medium of infection. Their valvular defects are preceded and caused by atheroma. The prognosis in this class of subjects is rather good. I have seen more middle-aged people die of valvular lesions than old people. I have seen many men and women whose age exceeded by ten or twenty the biblical allotment of three score years and ten living comfortably with all sorts of heart murmurs, which, in young and middle-aged people would mean death in a short time.

Articular rheumatism is justly regarded as the nemesis of valvular disease of the heart in the young as well as in the more advanced in years. Influenza is responsible for valvular disease of the heart. Of the common infectious diseases, typhoid fever and diphtheria are factors to be reckoned with in the cause of valvular disease and because of their known tendency to undermine the heart mostly they constitute no mean element in prognosis. Measles and scarlet fever occasionally produce defects of the valves. Pulmonary tuberculosis with its baneful effects must be regarded as a serious element in the prognosis of valvular disease. Emphysema of the lungs ranks high as an element in the prognosis. Kidney disease, pericarditis, gall-bladder disease and metabolic perversions should be considered in their relation to prognosis. Angina pectoris is a most formidable factor in the prognosis of disease of the valves. I have seen six or seven cases of congenital stenosis of the pulmonary valves. The oldest patient died at the age of 24. One of 20 recently developed tuberculosis and will soon die. The prognosis in this congenital affection is influenced by any extraneous conditions. Correct diagnosis is important as it is the key to the prognosis and treatment.

### Dilatation of the Heart

Dr. Wesley T. Mulligan, Rochester: The treatment should be preventive. Patients should be taught proper methods of living, and when taken ill, the heart should be examined carefully and often enough to keep one acquainted with its exact condition. The patient should not be allowed to get up from a sickness too rapidly. This cannot be too strongly urged, as no matter how much the physician insists on care, patients will forge ahead too fast for their own good. I find that absolute rest for a period, in young persons, with a little heroin, strychnin and digitalis, one or all, or even none of them, is followed by excellent results. The absolute rest should be kept up according to the condition of the heart. When the heart gets back to its normal size, or nearly so, the patient may begin gradually to get around and exercise. When there is dropsy the old formula of squills, digitalis and calomel is often called into requisition for a time with great benefit, and elastic bandages often give relief to the swollen legs. The abdominal or thoracic cavities sometimes need tapping.

### Discussion on Heart Lesions

Dr. Allen A. Jones, Buffalo: Dr. Abrahams referred to anemia as being an important factor in forecasting the prognosis in valvular disease of the heart, and this is particularly important in patients who are advanced in years. When we find cases of atheroma of the aorta and aortic insufficiency, with possibly a double murmur at the aortic valve, systolic as well as diastolic, with vascular disease and a dilated and hypertrophied left ventricle, or possibly the whole heart associated with a severe grade of anemia, the prognosis is rendered much more serious than is the case with the anemia that so frequently attends valvular disease in younger people. I recall a young woman who came to me seven years ago with mitral disease, with severe chlorotic anemia, with dilated heart, leaking badly at the mitral valve, and the heart action very irregular. The girl was weak and tremulous, but in good flesh, and under rest and iron and appropriate treatment otherwise she improved greatly. In later years she came to me with typical symptoms of hyperthyroidism. She had the tripod—the enlarged thyroid, somewhat prominent eyes, but not markedly so, and tachycardia. At that time her heart had pulled together considerably, although it was large. A mitral murmur was heard. She was anemic again, and that was about two years ago. Recently she returned, having lost all the symptoms of exophthalmic goiter, and presenting herself with a heart in astonishingly good condition. The left border was slightly outside the nipple line. A mitral murmur could be heard only very moderately. The pulse was normal in frequency, and regular, and she was complaining of symptoms entirely remote and different from those she had formerly complained of. Anemia in this case, then, was not a bad prognostic omen. A patient with mitral insufficiency may be carried along for a long time without any serious results apparently. We must consider not only the dilated heart muscle, but the hypertrophy and the ability of that muscle to retain its power of stretching. Under normal conditions the heart muscle is called on to stretch very frequently far beyond the ordinary demand of stretching that is made on it, and as soon as that ability to compensate itself, to increase the intraventricular capacity, is interfered with by myocarditis, or degenerative changes, that heart is never again so good; and this may be the initiation of a condition which finally develops into serious cardiac insufficiency.

*(To be continued)*

therapy, with their indications, are handled with unusual ability. The positive statements in regard to electrotherapeutics, with definite indications, is convincing and demands the attention of those who are prejudiced against this method of therapeutics. The author's position on the latest views of cancer and fibroids of the uterus, and their radical removal on diagnosis compels respect for his views on other subjects.

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Dr. Eli H. Long, Buffalo: With the last revision the standard character of the book was enhanced in a practical way by including the average dose of each drug and preparation for internal use. The trend of therapeutics along new lines was recognized in the introduction of antidiphtheritic serum and desiccated thyroid and suprarenal glands. These additions indicate that the work of the revisers went just so far in the introduction of new features as the status of our knowledge and experience, tempered by wise conservatism, would permit. In the interest of a simplified materia medica it is important that in the next revision all drugs that are nearly obsolete and those of slight medicinal value should be eliminated. With each past revision, numerous articles have been discarded and others admitted, but too many inferior drugs have been retained. At present, elimination is needed more than addition, though a number of new remedies of approved value should be admitted. In addition to valueless drugs, a number of preparations and unimportant salts can be dispensed with. The list suggested by the committee of the Section on Practice of Medicine of the American Medical Association indicates about what can be properly done in the way of elimination. The practical value of the Pharmacopeia to practitioner and student would further be increased if incompatibles could be mentioned in connection with each substance and preparation. To the same end the chemical tests of substances might possibly be diminished.

### Elements of Prognosis in Valvular Diseases of the Heart

Dr. R. Abrahams, New York: Young people of from twenty to thirty years of age, in whom arterial changes antedate the development of valvular diseases offer a poor prognosis. Young people of from twenty to thirty with valvular disease, who show subsequently arterial changes, are as bad. Patients of this class are greatly on the increase. Young people with valvular disease, but with no sign of arterial changes, can count on a good prognosis. Middle-aged people, those from 30 to 50, with valvular disease will stand well the hardening process of the arteries so long as the vascular apparatus of the kidneys remains unaffected. The prognosis becomes more and more unfavorable in proportion to the changes in the renal blood vessels. People beyond 60 rarely acquire valvular disease through the medium of infection. Their valvular defects are preceded and caused by atheroma. The prognosis in this class of subjects is rather good. I have seen more middle-aged people die of valvular lesions than old people. I have seen many men and women whose age exceeded by ten or twenty the biblical allotment of three score years and ten living comfortably with all sorts of heart murmurs, which, in young and middle-aged people would mean death in a short time.

Articular rheumatism is justly regarded as the nemesis of valvular disease of the heart in the young as well as in the more advanced in years. Influenza is responsible for valvular disease of the heart. Of the common infectious diseases, typhoid fever and diphtheria are factors to be reckoned with in the cause of valvular disease and because of their known tendency to undermine the heart mostly they constitute no mean element in prognosis. Measles and scarlet fever occasionally produce defects of the valves. Pulmonary tuberculosis with its baneful effects must be regarded as a serious element in the prognosis of valvular disease. Emphysema of the lungs ranks high as an element in the prognosis. Kidney disease, pericarditis, gall-bladder disease and metabolic perversions should be considered in their relation to prognosis. Angina pectoris is a most formidable factor in the prognosis of disease of the valves. I have seen six or seven cases of congenital stenosis of the pulmonary valves. The oldest patient died at the age of 24. One of 20 recently developed tuberculosis and will soon die. The prognosis in this congenital affection is influenced by any extraneous conditions. Correct diagnosis is important as it is the key to the prognosis and treatment.

### Dilatation of the Heart

Dr. Wesley T. Mulligan, Rochester: The treatment should be preventive. Patients should be taught proper methods of living, and when taken ill, the heart should be examined carefully and often enough to keep one acquainted with its exact condition. The patient should not be allowed to get up from a sickness too rapidly. This cannot be too strongly urged, as no matter how much the physician insists on care, patients will forge ahead too fast for their own good. I find that absolute rest for a period, in young persons, with a little heroin, strychnin and digitalis, one or all, or even none of them, is followed by excellent results. The absolute rest should be kept up according to the condition of the heart. When the heart gets back to its normal size, or nearly so, the patient may begin gradually to get around and exercise. When there is dropsy the old formula of squills, digitalis and calomel is often called into requisition for a time with great benefit, and elastic bandages often give relief to the swollen legs. The abdominal or thoracic cavities sometimes need tapping.

### Discussion on Heart Lesions

Dr. Allen A. Jones, Buffalo: Dr. Abrahams referred to anemia as being an important factor in forecasting the prognosis in valvular disease of the heart, and this is particularly important in patients who are advanced in years. When we find cases of atheroma of the aorta and aortic insufficiency, with possibly a double murmur at the aortic valve, systolic as well as diastolic, with vascular disease and a dilated and hypertrophied left ventricle, or possibly the whole heart associated with a severe grade of anemia, the prognosis is rendered much more serious than is the case with the anemia that so frequently attends valvular disease in younger people. I recall a young woman who came to me seven years ago with mitral disease, with severe chlorotic anemia, with dilated heart, leaking badly at the mitral valve, and the heart action very irregular. The girl was weak and tremulous, but in good flesh, and under rest and iron and appropriate treatment otherwise she improved greatly. In later years she came to me with typical symptoms of hyperthyroidism. She had the tripod—the enlarged thyroid, somewhat prominent eyes, but not markedly so, and tachycardia. At that time her heart had pulled together considerably, although it was large. A mitral murmur was heard. She was anemic again, and [illegible]
was about two years ago. Recently she returned [illegible]
lost all the symptoms of exophthalmic goiter, and [illegible]
herself with a heart in astonishingly good [illegible]
left border was slightly outside the nippl[illegible]
murmur could be heard only very moder[illegible]
normal in frequency, and regular, and [illegible] [illegible]e
symptoms [illegible] remote and diff[illegible] by
formerly [illegible] Anemia [illegible] Bass
a bad prognos[illegible] purposes
may be carried along [illegible] all that is
results apparently. We [illegible]
heart muscle; but the [illegible] ment of hookworm,
muscle to retain its pow[illegible] takes the place of
ditions the heart muscle [illegible] wder form, while
far beyond the ordi[illegible] es do to thym
on it, and as soon [illegible] ls "Tropical M.
increase the intraven[illegible] ts, and castor
myocarditis, or [illegible] h satisfact[illegible]
again so good; and this [illegible] find that
which finally develops int[illegible] vorably

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Dr. Edward E. Lindeman, Tampa, Fla.: Recently there were sent to the State Board of Health of Florida several specimens of what appeared to be calculi accompanying the pathologic condition of uncinaria; but on microscopic examination of the crystals and chemical analysis they proved to be solid masses of thymol. It is evident that thymol will pass through the intestinal tract at times in a solid mass, and therefore, thymol in a solid mass has no therapeutic value. The manner in which thymol acts prompted me to look into the matter a little to see in what form thymol may be administered to the best advantage. It seems that the drug acts on the parasite by the crystals in a fine condition coming in contact with it. Thymol in solution has little or no therapeutic value, although thymol in a finely suspended state has. It is desirable, therefore, that the thymol be given in a finely powdered state, so that it will become widely disseminated and the crystals come in contact with the worms.

### Formation of Permanent Organization

A permanent organization was formed and is to be known as "Southern Health Conference."

The following officers were elected: President, Dr. H. F. Harris, Atlanta, Ga.; secretary, Mr. W. G. Cooper, Atlanta, Ga.; vice-presidents—Alabama, Dr. H. G. Perry, Greensboro; Florida, Dr. Hiram Byrd, Jacksonville; Georgia, Mr. Wilmer L. Moore, Atlanta; Kentucky, Dr. J. B. Marvin, Louisville; Tennessee, Dr. J. A. Albright, Nashville; Virginia, Dr. E. G. Williams, Richmond; North Carolina, Dr. R. H. Lewis, Raleigh; Mississippi, Dr. S. H. McLean, Jackson; Arkansas, Dr. E. H. Martin, Hot Springs; South Carolina, Dr. Wm. Weston, Columbia; Texas, Dr. W. M. Brumby, Austin; Louisiana, Dr. George Dock, New Orleans; District of Columbia, Dr. W. C. Woodward, Washington; Oklahoma, Dr. J. L. Shuler, Durant; United States Army, Major B. D. Taylor, Atlanta; United States Navy, Passed Assistant Surgeon J. H. White, Washington; Hawaii, Dr. W. D. Baldwin, Honolulu.

### Vital Statistics

The following resolution was adopted:

Whereas, It is exceedingly difficult to get accurate information concerning health conditions in the South, except in a few localities; therefore, be it

*Resolved:* That the executive committee, the president and vice-president and the board of councillors for each state are requested to bring to the attention of all state and municipal legislatures the urgent need for providing some efficient measure for the uniform collection of vital statistics, such as the bill that has been approved by the American Medical Association, and the United States Government.

### National Bureau of Health

The following resolutions were adopted:

*Resolved:* That this conference memorialize Congress and the President of the United States on the subject of a National Bureau of Public Health, and that a special committee be appointed to present this matter at Washington. Be it further

*Resolved:* That members of the conference in their respective communities, and the vice-president and the board of councillors in each state are requested to use their influence with the members of Congress for the establishment of such a department.

### Vote of Thanks to Mr. Rockefeller

Dr. W. F. Westmoreland, Atlanta, offered the following resolution, which was adopted:

*Resolved:* That the Southern Health Conference by a rising vote extends to Mr. Rockefeller its sincere thanks and high appreciation of his munificent and humanitarian gift to our people to aid them in the arrest and cure of hookworm disease.

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## PHILADELPHIA COUNTY MEDICAL SOCIETY

*Regular Meeting, held Dec. 8, 1909*

The President, Dr. Frederick P. Henry, in the Chair

### Lithium Waters as Therapeutic Agents

Dr. Henry Leffmann: Lithium salts have been therapeutic fetishes for nearly half a century. The emotional enters so largely into the impulses of most persons that it is not improbable that the adaptation of lithia for the treatment of lithiasis was given greater plausibility to many on account of the similarity in terms. The doctrine of "signatures" contains many quite as strange inferences. I am old enough to recall the earlier years of the effect of Garrod's book. At that time uric acid was a pathologic Frankenstein monster, and the promise of anything that would keep it and its salts in solution was, of course, hailed with delight. As soon as Garrod's views took hold of the profession the methods of administering the lithium salts were canvassed with much vigor. The exploitation of "lithia waters" became a feature of commercial therapeutics. The term is not scientifically accurate. Lithia is, strictly, lithium monoxid, which cannot be present in a natural water, but the expression is well-established and does not seriously mislead. Waters containing but minute amounts of lithium have become established in commerce as "lithia waters." On the result of an analysis of about two score of the so-called mineral waters the Bureau of Chemistry of the Department of Agriculture has recently issued a circular of inquiry the essential features of which I give herewith. It has been found that nearly all "lithia waters" either contain only spectroscopic traces of lithium (unweighable quantities in 2 to 4 liters), or contain less than one part per million (approximately 0.05 grain per gallon) of lithium. All the analyses of the U. S. chemists give the lithium in the form of chlorid which is not likely to have solvent action. If it acts as a diuretic—which is not impossible, it will be largely as an irritant to the secreting tract and the same result could probably be accomplished by increasing slightly the ingestion of common salt. It must not be overlooked, however, that the methods of water analysis rarely enable the chemist to state positively the association of the different ingredients—the so-called ions—and in a report giving such ingredients as lithium chlorid, sodium sulphate and magnesium carbonate as existing in a sample, the data of the laboratory-book will correspond just as well to the arrangement, lithium carbonate, sodium chlorid and magnesium sulphate, or any of the other permutations that can be made of the negative and positive ions respectively. It is true that other tests of the sample, *e. g.*, taste, and behavior on boiling, may suggest special combinations, but in complex waters, as are most of those here considered, the arrangement will be inferential, and the government chemists have, therefore, given the statements as hypothetical form of combination. If their arrangement is accepted, no lithia water, in the sense in which Garrod and his followers have used the term, is offered for sale in this country.

Another important point is that almost all waters rich in lithium salts are so rich in other mineral ingredients that they are not suitable for a regimen. Any attempt to use a water containing an infinitesimal amount of lithium would be on the same basis as the administration of cod-liver oil for the minute amount of iodin in it. Another and even more serious objection is that some waters contain notable amounts of barium salts. Barium compounds are distinctly poisonous. Recent analyses by the Bureau of Chemistry in a special investigation have shown that barium compounds contained in plants have been the cause of serious poisoning of stock on some of the western feeding grounds.

The conclusion of the matter seems to be that it is doubtful if even lithium carbonate is of any real value in the treatment of uric acid lithiasis, and if so, it cannot be introduced by the use of the commercial lithia waters. The only way in which to get the proper dosage is to use the pure salt in tablet form or (probably the best method in practice) to prescribe the liberal use of a distilled water containing definite amounts of pure lithium carbonate. Excellent distilled waters can now be obtained at moderate cost and druggists can easily dissolve a small amount, say five grains, of the pure lithium carbonate in a gallon and the water can be used as desired in place of ordinary drinking water.

The time is now at hand to overthrow the "lithia water" fetish, the only use of which is to extract annually many thousands of dollars from the pockets of real and imaginary sufferers in this country.

### Therapy by Bacterins and Tuberculins in Mixed Suppurative Bone and Joint Disease

DR. B. A. THOMAS read this paper. Similar articles by the same author appeared in THE JOURNAL, Jan. 22 and 29, 1910, pages 258 and 362.

### Malignant Disease of the Sacrum Simulating Sciatica

DR. ALFRED GORDON read this paper, which will appear in full in THE JOURNAL.

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## WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

*Nineteenth Annual Meeting, held at Omaha, Dec. 20-21, 1909*
*(Concluded from page 561)*

### Scopolamin-Morphin Preliminary to General Anesthesia; A Report Based on 1,100 Cases

DR. CLIFFORD U. COLLINS, Peoria, Ill., read this paper, which will appear in full in THE JOURNAL.

### Progress in Surgery of Renal Calculi

DR. DANIEL N. EISENDRATH, Chicago: Much of the progress in surgery of the kidney in recent years is due to the improvement in operative technic, as well as to the ability to secure better skiagraphs of the kidney and ureter. Few surgeons are willing to operate for suspected renal calculus, unless the skiagraph shows a shadow indicative of such a calculus. Every picture should include both ureters and both kidneys, since one is likely to overlook the presence of calculi in both kidneys, unless both sides are taken. A long twelfth rib may hide a calculus lying behind it. Calculi lying at the pelvic orifice of the ureter have a peculiar nipple-like downward and inward projection, which is very characteristic. Stones in the parenchyma of the kidney usually give round and small shadows. The stones which lie in hydronephrotic cavities, or in the dilated calices, are large and oval. Some calculi have a coral-like structure, indicating marked dilation of the calices. A shadow scattered over a considerable area usually means destruction of the kidney. If the shadows are at a level below that of the normal kidney, one can exclude ureteral calculi. The best way to prepare a patient for a radiograph is to resort to thorough catharsis and liquid diet eighteen hours before taking the picture. The shadows which are to be excluded are those due to tumors or dilated calices, scybala, calcified glands or centers of ossification in the costal cartilages and tuberculous foci in the kidney. From many cases of my own and of others I find that bilateral calculi occur in 30 per cent. of the cases. Anuria is a frequent complication of bilateral calculi.

I recently made investigations in regard to the presence of accessory renal arteries. It is necessary to know the presence of such multiple arteries in connection with all operations on the kidney, especially nephrotomy and nephrectomy, since severe and perhaps fatal postoperative hemorrhage may occur through such an oversight. Attention is also directed to the variation in the types of renal pelvis. One is accustomed to think of only one type of pelvis in which the pyramids of the kidney open into a large sac. This ampullar type only occurred in about 30 per cent. of cases. In the remaining 70 per cent. the pelvis divided either outside of or soon after entering the kidney into two or three large primary calices, from each of which a number of secondary calices arose. In regard to the best method of removal of calculi from the kidney, if the radiograph shows a single stone at the outlet of the pelvis, and the surgeon is certain that this is the only calculus present, the best method of removal is through an incision into the posterior surface of the pelvis where there are very few vessels, and the extraction of the calculus under these circumstances can be readily done. If, however, there are a number of shadows scattered over the kidney area or one large calculus, it is best to remove it through a nephrotomy incision.

#### DISCUSSION

DR. M. L. HARRIS, Chicago: The need of knowing the condition of both kidneys is important. The frequency of bilateral kidney stones is little recognized by most physicians and only by very few surgeons, unfortunately because the frequency with which some accident happens to the patient after the removal of the first kidney is very great. It is impossible to determine the existence of bilateral kidney stone by the symptoms, as frequently the symptoms are limited to one side for at least a long time, and by depending entirely on the symptoms one is led to operate on that side and neglect to examine the opposite side. This was forcibly illustrated to me recently. A patient came to me with a history of renal stone, with repeated attacks of renal colic in the left side, and I sent him to the hospital for the purpose of examining the two kidneys by catheterization. We set an appointment two days ahead. On the morning on which I was expected to make the examination he got to the hospital before I did and was seized with an attack of acute renal colic on the right side. Up to that time he had no symptoms whatever of involvement of the right kidney, yet on the eve practically of doing something for left-sided trouble he suddenly manifested evidence of involvement of the opposite kidney. After he had passed over the colic I catheterized both sides and found both kidneys involved. This case shows that we should invariably examine both kidneys, not only by *x*-ray but by separating the urine from each kidney in every patient with kidney trouble on whom we expect to operate.

DR. LEONARD FREEMAN, Denver: I should like to speak of one embarrassing complication in operating on kidneys for stone, and that is secondary hemorrhage. It is an extremely unfortunate thing to have operated on a kidney and successfully removed a stone and have the patient go on in the best of condition for a week or ten days and then begin to have a little blood in the urine, a little more the next day, and still more the next day. Such hemorrhages are not infrequently fatal. The only thing to be done under these circumstances is to remove the kidney, and the sooner that is done in the presence of secondary hemorrhages the better it is for the patient. That, again, illustrates Dr. Harris' statement that it is absolutely necessary to know, before we extract a stone from one kidney, whether the patient has another kidney or not, and whether that kidney is doing its duty, because in the face of a severe secondary hemorrhage of this kind it is impossible sometimes to find out the condition of the second kidney. I have had this happen to me twice. Once on the seventh day a hemorrhage began as a slight hemorrhage and the following day a severe one which almost killed the patient; and in the second case the hemorrhage began on the ninth or tenth day, and a very severe hemorrhage did not manifest itself until the twelfth or thirteenth day. In each case I did nephrectomy under desperate circumstances, using salt solution and adrenalin in the vein to resuscitate the patient, and had the satisfaction of seeing these two patients recover. But it was a very close call in each case.

DR. ARTHUR C. STOKES, Omaha: I had a patient with stone in the kidney in whom there were almost no symptoms. Preceding the operation for removal of the kidney the patient was operated on, a diagnosis having been made of floating kidney. An incision was made going straight through the muscles of the back, and in the attempt to tie the kidney up to the back a lot of pus was found. The surgeon was not prepared to remove the kidney. The patient subsequently came under my care and the kidney was removed. This patient had practically no symptoms, yet the kidney was almost entirely destroyed. The parenchyma was almost entirely gone, leaving only fibrous tissue here and there. On the removal of the kidney about a quart of pus came out of its pelvis and around the kidney. The kidney pelvis was practically destroyed. I wish to emphasize the great care that should be taken in the diagnosis of renal stone. There is no symptom or set of symptoms pathognomonic of kidney stone. It has happened to me several times to have made an absolute diagnosis of stone in the kidney, and yet on opening in there no stone was found. That is embarrassing. Now that we have the use of the *x*-ray in kidney stone work we are able to differentiate a stone in the kidney from pyonephrosis, pyelonephrosis, and so forth.

DR. CHARLES H. MAYO, Rochester, Minn.: There is no major operation which is undertaken with less working out of details than operative procedures on the kidney. Many times we will see very good surgeons undertake an operation on the kidney just because there is a tumor, when it would only take a little more time to determine the functional capacity of both kidneys and see if any emergency exists. When one becomes advanced in kidney work he feels that he must determine the functional capacity of each kidney, and feeling, above all things, that in some instances he must preserve the kidney after removing the stone. Anomalous blood vessels are encountered in kidney work. These are not uncommon, although it is only lately that we have realized that they are present.

**Dr. A. W. Abbott**, Minneapolis: Dr. McArthur of Chicago has reported a case in which the blood supply was from the external iliac; while in a case of my own the supply was from the internal iliac.

### Preparation of Patients for Prostatectomy

**Dr. E. S. Judd**, Rochester, Minn.: The general tendency regarding the preparation of patients for surgical interference is to reduce the details to a minimum, although there are some patients who will do better if they are especially prepared. In reviewing the autopsy findings in cases from the clinic in St. Mary's Hospital which had terminated fatally following operation for the removal of the prostate, it was found that the cause of death in practically every instance was kidney insufficiency and acute nephritis superimposing on an old kidney lesion, usually chronic nephritis. Because of systemic conditions some of these patients are not good subjects for operation; on the other hand, the poorest subject will sometimes endure a difficult prostatectomy with considerable loss of blood and be in good condition in a few days. As the gland increases in size the amount of residual urine increases until the back pressure, coming gradually, becomes a constant factor in the function of the kidney. Continued withdrawal of the pressure will throw the kidneys into a condition of acute congestion, and if they are partially disabled the sudden change may prove very serious, resulting in acute nephritis and suppression. To overcome this difficulty at St. Mary's Hospital we commence by emptying the bladder with a catheter at stated intervals, gradually shortening the intervals until the bladder is emptied every hour. In our experience it has not been satisfactory to leave catheter in the bladder. No particular advantage is to be derived from special diets, therefore, regular diet is maintained up to the morning of the operation. One ounce of castor oil given 48 hours before operation is most satisfactory. Salt solution by rectum soon after operation aids elimination from the kidneys. Looseness of the bowels is most undesirable. The arteries of these patients are hard and inelastic and it is difficult to fill up the circulation; the patients are, therefore, encouraged to take great quantities of fluids for several days before operation. Urotropin (hexamethylenamin) given in doses of from 7 to 10 grains several times each day for a few days before operation will help the condition and tend to better the quality of the urine. The cystoscope is a valuable aid in the determination of the amount and kind of preparatory treatment. An operation should not be attempted during an acute cystitis or epididymitis. It is not advisable to remove the gland in the stage of acute retention.

### Lymphangioma with Report of a Case of Macroglossia and a Case of Macrocheilia

**Dr. A. A. Kerr**, Salt Lake City, Utah: When practical, the proper treatment of lymphangioma is excision. In macroglossia, if the swelling interferes with mastication, speech, or deglutition, the proper treatment is partial excision. In macrocheilia, partial or complete extirpation is indicated for cosmetic purposes, as well as a prophylactic measure against infection or malignant degeneration. In the case reported, by means of a wedge-shaped excision parallel with the long axis of the lip, the latter was reduced to normal size.

### Further Experimental Data on Vasomotor Relations of Shock

**Dr. M. G. Seelig**, St. Louis, referred to a previous paper, gave details of experiments, and stated that it would seem to be fair to assume that the pressor effects of vasomotor stimulation are due largely to vasomotor constriction, and that cardiac augmentation, at least in the later stage of shock, is not a primary factor in the rise. In conclusion he stated that it need hardly be emphasized that the results of the research point in every instance against the correctness of the theory that shock is a symptom-complex due to vasomotor exhaustion.

### Osteomyelitis

**Dr. James E. Moore**, Minneapolis: Bone diseases are very common, but the literature is comparatively scant. Until a comparatively recent date most inflammations of bone were diagnosticated as periostitis, but with the exception of cases in which the periosteum is directly injured and infected, or when the infection extends from the overlying soft parts, periostitis is a rare disease. Many lives and limbs have been sacrificed because the surgeon was content with a diagnosis of periostitis and an incision through the periosteum when the original seat of the disease was in the medulla. Inflammation of bone is due to infection just as it is in any other tissue, the added symptoms and dangers being entirely due to the density of the structure. Contusion of bone is the most common exciting cause of osteomyelitis, but underlying causes are back of that, because all contusions of bone are not followed by infection, and many so-called idiopathic cases occur with no history of contusion whatever. In very young children diagnosis is not easy because of the absence of subjective symptoms, and because infection not infrequently occurs in the epiphysis instead of in the usual seat near the end of the diaphysis. Early invasion of the joint in cases of epiphysitis is also liable to be misleading. Exceptionally acute tuberculosis of the epiphysis bears a strong resemblance to septic epiphysitis, but the pain is seldom so severe, the temperature rarely goes above 102 F., and leucocytosis is low or absent.

In some cases, the differential diagnosis between osteomyelitis and typhoid fever is not easy, for the patient suffering from osteomyelitis is in the so-called typhoid condition. Early treatment of acute osteomyelitis is as much of a surgical emergency as treatment of acute appendicitis. The diagnosis should be made early and followed promptly by operation. There is no medical treatment and poultices and other local applications only lead to waste of valuable time. An incision through the periosteum may relieve pain, but is insufficient because it fails to stop the ravages of the disease. By a prompt opening into the center of the bone drainage is established and pressure relieved, and when made early enough will stop the separation of the periosteum and destruction of the endosteum, thus preventing or limiting necrosis. In very early operation no pus may be found, but the medulla is greatly congested and protrudes into the wound. Under these conditions the trephine opening need not be enlarged. When acute osteomyelitis begins in the epiphysis, as it sometimes does, especially in young children, the infection is liable to be from the streptococcus, and in addition to the danger to life is the danger to the neighboring joint. An opening should be made into the center of the epiphysis before the joint becomes involved, being careful always to preserve the epiphyseal line. Chronic osteomyelitis may be the result of an acute attack or may be subacute from the first, when it is liable to be mistaken for tuberculosis. In cases following an acute attack an operation should be performed for the removal of the sequestrum as soon as it is separated, which is anywhere from six weeks to four months. The cavity should be thoroughly curetted, washed, and disinfected by heat or 95 per cent. phenol, the latter being much more convenient, and in my experience eminently satisfactory. The acid should be left in the cavity for 3 to 5 minutes, when it should be wiped out and the cavity thoroughly washed with alcohol, after which it should be dried and filled with Moorhof's bone wax in a liquid state. The wax quickly hardens at the temperature of the body, after which the periosteum and soft parts are closed in layers by means of chromicized catgut. A dry surgical dressing should then be applied, the bandage being quite snug, and finally the tourniquet should be removed. In most of my patients the wound has healed promptly, and the results have been satisfactory. My experience with the bone wax is such that I can consciously recommend it, for when I have temporarily failed I am confident that the fault was in my technic and not in the method.

# Medicolegal

## Liability for Communication of Gonorrhea by Instruments Used

The Supreme Court of Washington says that the case of Helland vs. Bridenstine (104 Pac. R. 626) was brought against a physician to recover for alleged malpractice consisting of the use in and on the plantiff's genital organs of unclean and unsterilized instruments, whereby the loathsome disease of gonorrhea was communicated to her.

The evidence on the part of the plaintiff tended to show that she had been suffering for a number of years with some nervous affliction. That after the defendant had prescribed for her, and she had experienced only temporary relief, he stated that her symptoms indicated some derangement of the genital organs, and that if she would call at his office he would examine her. That she called as requested about February 1, when the defendant proceeded to examine her, using a speculum and probe, which he took from a nearby drawer and which were wrapped in a towel, and which were used as they were taken from the towel. That between 5 and 10 days thereafter she began to be troubled with inflammation and pain in the parts affected, accompanied by a discharge, which gradually became more severe, causing her to take to her bed. That the defendant was called in and treated her until August 15, when he quit treating her, and another physician was called in who pronounced her disease to be gonorrhea and treated her for some three months thereafter, finally pronouncing her substantially cured. The plaintiff also testified that her husband had died on January 11 of that year, and that she had not had sexual intercourse with him for some weeks preceding his death. She was not asked, and did not testify directly, that she had not had sexual intercourse with any other man, but did state that her husband had no venereal diseases, and that there was no other way than from the defendant's instruments by which she could have obtained the disease. The physician who treated her last also testified that when she called on him in August for treatment she was suffering from chronic gonorrhea, which he ascertained not only from diagnostic symptoms but by finding in the discharge from her genital organs the specific microbe of the disease. He testified also as an expert that she could acquire the disease from an infected speculum used on her in the manner she testified this one was used.

The defendant testified that in making the examination in question he used a speculum, a probe, and a forceps; that these instruments were kept on top of a medicine case in his office; that they were never kept in a drawer, and that after using them he always washed them in a mercuric iodin solution and soap and hot water, and immediately before using them he sterilized them by boiling them in hot water in a receptacle on a gas stove in the back part of his office, and that it was in this manner that these instruments had been cleansed and sterilized before use on the plaintiff; that the last time he had used the instruments prior to January 25, the date he used them on the plaintiff, was on January 19, on a woman suffering from chronic uterine trouble, not gonorrhea, and not infectious, and that he had not treated a case of gonorrhea in a female for many months prior to the time he treated the plaintiff. He further testified that his office was heated by a steam heater operated only in the daytime; that at night the office would become cold, running down to a temperature of from 50 to 55 degrees Fahrenheit. He also called a number of expert witnesses, who testified in substance that gonococci, the specific microbe of gonorrhea, could not survive in a temperature as low as 50 or 55 degrees Fahrenheit for any length of time, certainly not as long as four days, especially on a nickel-plated instrument such as a speculum; and each of them testified that under the circumstances testified to by the defendant it was impossible that the plaintiff could have obtained gonorrhea from his treatment.

In rebuttal two witnesses testified that the defendant had made an examination on them similar to the one made on the plaintiff, the one in the following April, and the other in June, and that in neither case did he sterilize the instruments before using them; that he took them from a drawer where they were kept wrapped in a towel, and used them without cleansing or sterilizing them in any manner.

The court thinks that there was here sufficient evidence on the question of the defendant's negligence, the question whether the plaintiff had actually become infected with gonorrhea, and the question whether the disease was communicated to her by means of the instruments the defendant had used on her person, to require their submission to the jury. The plaintiff was not required to prove her case beyond a reasonable doubt, nor by direct and positive evidence. It was only necessary that she show a chain of circumstances from which the ultimate fact required to be established was reasonably and naturally inferable. If it was true (and whether or not it was true was for the jury) that the plaintiff went to the defendant's office free from gonorrhea; that the defendant introduced into her vagina a speculum, which he used on other patients, without cleansing or sterilizing it, and that within the time thereafter usual for such a disease to generate she became afflicted with the disease, and there was no other known source of infection, it was a reasonable inference that she caught the disease from the instrument used on her by the defendant, and that the disease was negligently communicated to her. Nor was the inference so far overcome by the evidence of the expert witnesses as to require the court to take the question from the jury. None of them purported to testify how long the microbe gonococcus would live on a speculum which was wrapped in a towel and placed in a drawer in the temperature of the defendant's office. Moreover, the opinion of experts are taken to aid the jury in arriving at the ultimate fact, and no matter how positive may be their conclusions drawn from a given state of facts, it is still a question for the jury whether or not the facts recited on which the conclusion is based are the facts proven by the evidence, and whether or not the conclusion is correctly drawn.

The court, however, considers that a verdict for $4,000 in the plaintiff's favor was excessive, and gives her a choice bewteen accepting $2,000 and a new trial. She had fully recovered from the disease, and no permanent disability or injury resulted therefrom. Her losses because of inability to perform her ordinary duties while afflicted were but little more than nominal, and her expenditures for medicines and medical fees did not exceed at the utmost $200. For her pain and suffering, both physical and mental, she was of course entitled to full compensation, but this was the extent of her rights. Nothing should be awarded her as smart money, or for the purpose of punishing the defendant.

## Illegal Practice of Medicine for Ten Years Does Not Entitle to License

The Supreme Court of Colorado says that the plaintiff in the case of Higgins vs. State Board of Medical Examiners (104 Pac. R. 953), not a graduate in medicine, having applied to the board for a license to practice medicine and surgery without examination, and the board having denied his application, brought this action to compel the board, by mandamus, to issue the license. He claimed that, as he had made the practice of medicine and surgery his profession continuously for a period of more than 10 years prior to Feb. 2, 1905, the date of his application, he was entitled to a license under section 4 of the law of 1881, the concluding sentence of which reads: "All persons who have made the practice of medicine and surgery their profession or business continuously, for the period of ten (10) years, within this state, and can furnish satisfactory evidence thereof to the State Board of Medical Examiners, shall receive from said board a license to continue practice in the state of Colorado."

The plaintiff insisted that the practicing of medicine and surgery for any continuous period of 10 years, whether before or after the passage of the statute mentioned, although in defiance of law, entitled him to a license. The board, on the other hand, contended that no person is entitled to a license from it unless: (1) He proves that he is a graduate of a legally chartered medical school of good standing. (2) He passes a satisfactory examination. (3) He proves that he has made the practice of medicine and surgery his profession or business continuously for the period of 10 years prior to the passage of the act.

Section 12 of the act provides that the person who practices medicine in the state of Colorado without a license from the Board of Medical Examiners shall, on conviction, be punished by fine or imprisonment, or both; and to adopt the plaintiff's construction would be to reward, not punish, those who elude prosecution for the period of 10 years. The law should not be so construed, and the court holds that the contention of the board is correct, and that those only who have practiced for 10 years prior to the passage of the law of 1881 are exempted from the provisions of the statute requiring examination and proof of graduation. In the case of State vs. Wilson, reported in 61 Kan., at page 791, that court said: "Can it be that the Legislature intended that a person might qualify himself for the practice by that which the act prohibited? Is the direct and persistent violation of the law to be deemed the equivalent of character, education, experience, and skill which the statute requires for the protection of life and health?" These identical questions are presented to this court, and it does not hesitate to answer them in the negative.

A judgment of nonsuit is affirmed.

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# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### New York Medical Journal

*February 5*

1 Present Status of the Tuberculosis Campaign and the Essentials for Thorough and Prompt Success. L. F. Flick, Philadelphia.
2 *Study of Vasomotor and Trophic Disturbances in Hysteria. A. Gordon, Philadelphia.
3 *Malignant Leiomyoma. M. Ballin and J. W. Vaughan, Detroit.
4 Polycystic Kidneys. R. C. Newton, Montclair, N. J.
5 The Ounce of Prevention. S. W. Newmayer, Philadelphia.
6 *Enuresis. F. L. Wachenheim, New York.
7 Unusual Otitic Sinus Thrombosis; Operation; Recovery. H. B. Blackwell, New York.
8 Diagnosis and Treatment of Stricture in the Male Urethra. T. L. Deavor, Syracuse, N. Y.
9 *Case Illustrating the Arrest of Early Paresis. T. A. Williams, Washington, D. C.

2. **Hysteria.**—Gordon reports one case in proof of his contention made in 1907 showing the possibility of occurrence of vasomotor and trophic disturbance in hysteria and caused by hysteria.

3. **Malignant Leiomyoma.**—Ballin and Vaughan add one case to the thirteen already recorded showing that nonstriated muscle cells may assume malignant rôles. In this particular case, the muscle cells were so little altered in the metastatic locations that it rendered their derivation absolutely certain. The patient, unmarried, aged 28, was referred for operation because of a uterine tumor which had been discovered by her physician eleven months before. She complained of profuse and painful menstruation, which occurred every two and a half weeks, together with pressure pains in the lower extremities. The latter had been present for six months. Examination revealed a mass the size of a child's head in the lower abdomen. The mass moved with the cervix and could not be distinguished from the uterus. Its contour was rough and uneven, so that a diagnosis of multiple fibroids was made. Operation was advised and accepted.

A median celiotomy was performed. The uterus was hard, firm, irregular, and the size of a child's head. The omentum was studded with enlarged lymph glands. The irregularity in shape of the uterus was caused by the presence of many hard white nodules which varied in size from that of a pea to that of a tangerine orange. Enlarged lymph glands were also found along the iliac artery and the tip of the appendix, as well as one at the base of its mesentery. The probable diagnosis of sarcoma was made, and because of the impossibility of removing all the involved glands, the less radical operation of supravaginal hysterectomy was deemed best. Both tubes and ovaries, the retroperitoneal glands and the appendix with its accompanying glands were removed, as was also a piece of the o[illegible] 5 inches), which contained the [illegible] glands. Microscopic examinati[illegible] nbe [illegible] lei [illegible] n months after the operation, the patient was still in fairly good health, although all the malignant tissue was not removed at the operation.

6. **Enuresis.**—That enuresis must be classed as a "habit" is the point made by Wachenstein. He says that the more we analyze it, the more does the entire clinical picture give the impression of being essentially a developed habit, and a concomitant stuttering or *tic convulsif*, not infrequently present, does not tend to abate this impression. If, now, we attempt to explain enuresis by including it among the tics or habit spasms, we shall find a number of features that link it closely to this well defined group. First, of course, is the undeniable element of habituation. Second, it reveals itself as a tic in being almost continuous; the bladder tends to empty itself whenever a small quantity of urine has accumulated. The predominance of nocturnal incontinence is due to the absence of distracting influences during sleep, for it is well known that a habit spasm is temporarily suspended when the patient's attention is directed thereto. During the day, the victim of enuresis is powerfully restrained by the force of public opinion and ridicule, though he may forget himself and lose control under some special strain or excitement. Third, there is the frequent association of enuresis with such unquestionable habit spasms as stuttering. Fourth, the age of onset agrees precisely with that of the other habit spasms; the ages of maximum frequency also correspond. Its lesser tendency to persist into adult life is due to its involving the genitourinary tract, which undergoes such radical anatomic and physiologic changes at puberty. Furthermore, some cases of enuresis, especially in females, do persist into adult life, and then become exceedingly difficult to cure, as also happens with other tics.

The rational and, incidentally, most successful treatment of tics consists in making the patient perform voluntarily, under his own or some other person's control, the movement which has been so frequently repeated subconsciously. In carrying out this plan the child is compelled to urinate at regular hours during the day, and is wakened at regular intervals during the night, the intervals being timed so as to anticipate the involuntary act, if possible. Thus, in a moderately severe case, micturition might be enforced on rising, at nine, noon, three, six, at bedtime, an hour after bedtime, and two hours after bedtime, bad cases may require a two-hour interval during the day, and more rousings at night. The essential matter is the accurate observance of the exact hour day by day. Often the training cure, by itself, proves ineffective; a common complaint being that the child is found to be wet every time it is roused, the tic being fully developed and practically continuous during sleep. Here we may aid by cutting off all fluids during the later afternoon and evening, thus reducing the secretion of urine to a minimum by keeping the bladder as nearly empty as possible. Wachenheim always anticipates by including the deprivation of fluids in the plan of treatment, and, in addition, restricts the bulk of the evening meal, even in cases that seem relatively mild.

As to further auxiliaries atropin has a certain adjuvant value, and may be given rather liberally, for small doses are useless. When the tic is, as often happens, associated with a general run-down condition tonic treatment is indicated. When adenoid vegetations or greatly hypertrophied tonsils are present, their removal is indicated, but a conspicuous effect on the enuresis need not be expected, save that the operative shock or the anesthesia may check it, as it may any habit spasm. It is wise to continue the training for a considerable time, at least two months, after the incontinence has ceased; the nocturnal rousings may be omitted after about a month, but the strict observance of the diurnal evacuations should be continued at least a month longer.

9. **Arrest of Early Paresis.**—The principal points in Williams' paper are (1) the necessity of early diagnosis; (2) the need of regulation of metabolism during a mercurial course; (3) the need for careful choice of the manner in which mercury should be administered. Williams uses the injection method, because inunction is inconvenient, uncertain in ordinary practice, and, he believes, less controllable than the injection method.

### Medical Record, New York

*February 5*

10 Pathologic Prodromes of Taboparesis. T. A. Williams, Washington, D. C.
11 Local Anesthesia in General Surgery. W. S. Schley, New York.
12 *Skin Lesions of Pellagra. H. Fox, New York.
13 *Rectal Examination as a Routine Measure. F. C. Yeomans, New York.
14 Serodiagnosis of Syphilis. J. DeLisle, New York.
15 *Thrombosis of the Left Iliac Vein. C. S. Aitkin and J. A. Jackson, New York.
16 Tapping the Pleural Cavity. E. M. Foote, New York.

12. **Skin Lesions of Pellagra.**—Fox claims that the skin lesion of pellagra is rather a dermatosis than an erythema, since desquamation is a marked factor in the lesion. It contrasts with eczema in lacking the element of itching. It is not peculiar to the portions of the body which are exposed to the sun, and naked children show it only in the characteristic locations.

13. **Rectal Examination.**—Yeomans urges that examination of the rectum should be a routine measure in cases of painful affections of the pelvis and abdomen. The examination is made in the Sims position, and should cause little pain. The anus is inspected; then pressure is made around it with the index finger for tender spots, the patient bears down and the mucosa is gently teased out around it. The index finger, lubricated, is introduced into the rectum where it can reach up four and a half inches. The condition of the rectal walls may be appreciated and the genital organs examined at the same time by touch. Neoplasms will be felt, abscesses and fistulas found, hemorrhoids examined, and many other conditions brought to light. After this the proctoscope may be used and the interior of the sigmoid seen.

15. **Thrombosis of the Left Iliac Vein.**—Aitken and Jackson report the case of an insane female patient who made no complaints of the bladder, but showed swelling of both lower extremities three weeks before death. It was found that she had an overdistended bladder, which by pressure on the iliac vein had caused thrombosis in the left iliac vein, in both pelvis and thigh. At the post-mortem there was found a suppurative cystitis and acute urethritis of the left side, with inflammation of the pelvis of the kidney.

### Boston Medical and Surgical Journal

*February 3*

17 The Work of the Committee on Milk and Baby Hygiene in Behalf of Babies. J. M. Connolly, Boston.
18 Diagnosis and Treatment of Intussusception. A. R. Kimpton, Boston.
19 Clinical Significance of Curds in Infant's Feces. F. B. Talbot, Boston.
20 Unsuspected Diabetes; Cause of Rapidly Fatal Coma. W. W. Miner, Ware, Mass.

### Lancet-Clinic, Cincinnati

*January 22*

21 Specific Diagnosis and Treatment in Pulmonary Tuberculosis. S. Von Ruck, Asheville, N. C.
22 History of Hygiene. A. G. Drury, Cincinnati.
23 Therapeutic Renaissance. R. A. Bate, Louisville.

*January 29*

24 Atony and Tonics. N. Rosewater, Cleveland, Ohio.
25 The Question of Change of Climate for the Tuberculous. E. W. Mitchell, Cincinnati.
26 Chorea Insaniens; Acidosis. G. A. Staples, Dubuque, Ia.
27 Rural Sanitation. B. Stanton, Cincinnati.

### Medical Fortnightly, St. Louis

*January 10*

28 The Fear of the Cold. B. Holmes, Chicago.
29 Diffuse Infiltrating Carcinoma of Stomach. J. M. Bell, St. Joseph, Mo.

### Journal Michigan State Medical Society, Detroit

*January*

30 *Foreign Bodies in the Esophagus and Lower Air Passages. P. M. Hickey, Detroit.
31 Indications for Treatment of Calculus of the Kidney, Ureter, and Urinary Bladder. B. Holmes, Chicago.
32 Crime of Neglecting Cases of Uterine Cancer. J. H. Carstens, Detroit.
33 Cervical Rib; Case in which Resection was Performed. A. M. Campbell, Grand Rapids.
34 Treatment of Gastric Ulcer. J. T. Watkins, Detroit.
35 Medical Practice in Bengal, India. A. L. Kennan, Detroit.

30. **Foreign Bodies in Esophagus and Lower Air Passages.**—The clinical history of Hickey's cases shows the great value of the Roentgen ray as a diagnostic agent, and the superiority of operations through the mouth to external manipulations, especially when the esophagoscope and bronchoscope are used. He says that the first requisite is an operative technic which can best be obtained by practice on the lower animals. Trained assistants are of the utmost value, as on proper anesthesia and proper rigidity of the head and neck during the passage of the tube depends much of the ease with which it can be accomplished.

### Bulletin Johns Hopkins Hospital, Baltimore

*January*

36 Michael Servetus. W. Osler, London, Eng.
37 The Dedication of the New Hall of the College of Physicians of Philadelphia. W. S. Thayer, Baltimore.
38 The Method of Zadig in Medicine. M. G. Seelig, St. Louis.
39 Dr. Lemuel Hopkins, One of the Celebrated Hartford Wits, and a Forgotten Distinguished American Student of Tuberculosis. W. R. Steiner, Hartford, Conn.

### Military Surgeon, Washington, D. C.

*January*

40 Principles of Training. H. G. Beyer, U. S. Navy.
41 Care and Removal of Sick and Wounded on Shipboard During and After an Action. H. G. Beyer, U. S. Navy.
42 Organization of Medical Department and Sanitary Service of the Fleet under Present Conditions; What Organization will best meet the Requirements of the Fleet in View of Future Expansion and Render the Most Efficient Service, both in Peace and War? L. W. Curtis, U. S. Navy.
43 What should Constitute Best Training for Medical Officers Intended for Positions of Fleet and Squadron Surgeons, what Principles Should Determine their Selection for the Positions; Their Duties and Responsibilities in Relation to Fleet Sanitary Efficiency? H. G. Beyer, U. S. Navy.
44 *What should Constitute, in Principle and Practice, the most Efficient [illegible] l Department of a Ship During [illegible] ons for and Methods of Renderin [illegible] J. C. Wise, U. S. Navy.
45 *Precise Functions of a Hospital Ship in Time of Peace and in Time of War and its Relation to the Fleet. G. Pickrell, U. S. Navy.
46 The Hospital Ship as an aid to the Efficiency of the Fleet. C. F. Stokes, U. S. Navy.
47 *Most Effective Methods of Keeping Ships of War free from Infective Diseases: The Reception and Housing of Recruits at Barracks and on Receiving Ships. R. C. Holcomb, U. S. Navy.
48 Idem: The Reception and Care of Recruits Received on Board Ship. M. F. Gates, U. S. Navy.
49 Idem: Care of the Crew of a Ship Undergoing Extensive Repairs at Navy Yards. C. N. Fiske, U. S. Navy.
50 Idem: Care and Protection of Crews of Ships in Infected Ports. D. N. Carpenter, U. S. Navy.

44, 45. Abstracted in THE JOURNAL, Nov. 20, 1909, p. 1769.

47. Abstracted in THE JOURNAL, Nov. 27, 1909, p. 1846.

### Archives of Internal Medicine, Chicago

*January*

51 *Chronic Passive Congestion of the Liver. C. Frothingham, Boston.
52 Chronic Aleucemic Enlargement of the Lymphatic Glands. C. W. Duval, New Orleans, and C. P. Howard, Montreal.
53 *Various Forms of Experimental Arterial Disease in the Rabbit. M. C. Hill, New York.
54 *Addison's Disease: One Case with Adrenal Transplantation. F. C. Busch and T. Wright, Buffalo, N. Y.
55 *Total Energy Requirement in Diabetes Mellitus. E. F. Dubois, New York, and B. S. Veeder, Philadelphia.
56 *Syphilis of the Thyroid. C. F. Davis, Chicago.
57 *Peculiarities of Nitrogenous Metabolism in Pernicious Vomiting of Pregnancy. F. P. Underhill and R. F. Rand, New Haven, Conn.

51. **Chronic Passive Congestion of the Liver.**—The object of Frothingham's work has been to study the clinical history in a series of cases, in order to see if the clinical picture would support the view that an uncomplicated chronic passive congestion would not show any disappearance of liver cells. A series of cases was examined in which the patients had been treated at the Boston City Hospital, and which eventually came to autopsy. It soon became apparent that in the majority of cardiac cases of long standing with broken compensation the liver presented the picture of loss of liver cells around the hepatic veins. Frothingham says that uncomplicated chronic passive congestion of the liver, even in long-standing cases, does not necessarily lead to atrophy and disappearance of liver cells. It is possible, therefore, to imagine their disappearance in other cases as due to something else than long-continued congestion. Hemorrhagic necrosis of the liver is a frequent complication of chronic passive congestion of the liver. This form of liver necrosis probably occurs only in cases with some degree of cardiac insufficiency.

53. **Experimental Arterial Disease in the Rabbit.**—In the course of his investigation, 210 presumably normal animals were examined by Hill and spontaneous lesions were found

in 15 per cent. The lesions occurred in young (small) rabbits almost as frequently as in old rabbits. Hill says that histologically, the common type of spontaneous lesions cannot be distinguished from that due to adrenalin. Macroscopically, however, it differs from the diffuse lesion of adrenalin by being usually limited to a few foci occurring at the origin of the aorta. The peculiar spontaneous lesion described by Ophüls was not seen by Hill. He claims that the prolonged administration of barium by the mouth does not cause, as has been suggested, the appearance of spontaneous lesions. These spontaneous lesions apparently explain the results previously ascribed to single injections of adrenalin, for a repetition of the "single injection" experiments has given negative results. Likewise, in some groups of experiments, the long-continued administration of adrenalin in fairly large doses has led to the production of the diffuse lesion, considered characteristic of adrenalin, in a comparatively small percentage of animals.

Direct chemical injury, such as painting the vessel with silver nitrate, causes a fibrous thickening of the adventitia and outer portion of the media with calcification of the latter. Direct mechanical injury, as crushing by measured pressure with forceps, leads to atrophy of the media without calcification and to definite proliferation of the intima. The latter type resembles somewhat certain late stages of the adrenalin lesion with intimal proliferation, but neither can be considered analogous to either the spontaneous or adrenalin lesions. Attempts to produce vascular lesions through increasing the blood-pressure by mechanical means, as in the suspension experiments of Klotz, have given Hill negative results.

54. **Addison's Disease.**—One of the cases studied by Busch and Wright gave a typical picture of Addison's disease. The other two presented features which would tend to confuse the observer and increase the difficulty of diagnosis. In one of the cases they made an adrenal transplantation, the patient surviving the operation two and one-half weeks. All three cases terminated fatally.

55. **Energy Requirement in Diabetes Mellitus.**—A carefully conducted series of experiments convinced Dubois and Veeder that the total energy requirement of diabetic patients does not vary from the normal. They say, however, that in addition to the 31-35 calories required for the normal individual at rest, the diabetic should be given enough extra calories to cover the loss of sugar in the urine. If this is not done there is a breaking down of the body protein and fat.

56. **Syphilis of the Thyroid.**—Davis claims that his is the first case of tertiary syphilis of the thyroid—the diagnosis being confirmed by the anatomic findings—to be reported in American literature; the third reported in the English language, and the eleventh in the entire medical literature.

Twenty cases of gumma of the thyroid have been described. Eight of these were diagnosed only clinically without any definite anatomic proof of their syphilitic origin; 3 cases were diagnosed both clinically and histologically, 8 cases were diagnosed histologically. The remaining case was probably diagnosed clinically—it is specifically stated that histologic examination was not made.

Davis' patient complained of hoarseness, great inspiratory dyspnea and pain on swallowing. The trouble had appeared four months previously, when the patient developed the above symptoms. This condition was constant and was subject to exacerbations at rather frequent intervals, in which the dyspnea was so great that the patient became cyanosed. Hoarseness was marked. There was history of syphilis five years previously; the patient had never suffered from any other serious illness. Examination of the larynx disclosed a paralysis of the adductor muscles. The neck was somewhat tender in the region of the thyroid cartilage; otherwise examination of the neck was negative. Tracheotomy was performed under local anesthesia, and a tube inserted with no relief to the patient; death followed about twelve hours later.

57. **Pernicious Vomiting of Pregnancy.**—Underhill and Rand found that the composition of the urine in pernicious vomiting is strikingly similar to that which obtains in the urine eliminated during inanition. In both instances the characteristic perversions are changed relations in the excretion of urea and ammonia and at times in the output of creatinin and creatin. Other changes previously reported in the nitrogen output have not been firmly established. The determination of nitrogen, ammonia, creatinin and creatin in pernicious vomiting is believed to be of greater value than the more elaborate plan suggested by others, inasmuch as the methods to be employed are accurate.

It is suggested that the changes observed in the urine in pernicious vomiting of pregnancy are induced by accompanying inanition. Evidence tending to substantiate this view is furnished by the observation that the perverted urinary nitrogen relations rapidly resume the normal on administration of food without necessarily exerting any influence on the pathologic state of the patient. In pernicious vomiting of pregnancy in which inanition is a significant factor, the administration of energy-yielding foodstuffs is of greater value than the giving of foods rich in nitrogen. The body is capable of furnishing the small quantity of nitrogen requisite for nutritional rhythm, but, in the absence of carbohydrate, energy-yielding substances present in the body are difficult of utilization. It is, therefore, suggested that the employment of enemas of dextrose solutions by the Murphy drop method is a more rational proceeding in this and related conditions than attempts to administer the usual albumin solution, which in all probability is not absorbed and for which the body has relatively little need. Carbohydrate supply is apparently the factor determining the relative output of urea and ammonia, since in pernicious vomiting of pregnancy as in inanition, the administration of this substance by mouth or by rectal enemas is followed by a distinct tendency toward a resumption of the normal elimination of these compounds.

## Chicago Medical Recorder

*January*

58 Water Supply and Sewage of Lake Shore Towns of Lake County. W. C. Bouton, Waukegan, Ill.
59 Oral Prophylaxis. M. W. Dunn, Chicago.
60 Mercury and Locomotor Ataxia. C. E. Rogers, New York.
61 *The Nation and the Tropics. W. Osler, Oxford, Eng.

61. Published in the *Lancet*, Nov. 13, 1909.

## Ohio State Medical Journal, Columbus

*January*

62 Diagnosis and Treatment of Extrauterine Pregnancy. H. Robb, Cleveland.
63 Absence of Vagina; Embryology, Pathogenesis and Treatment. L. G. Bowers, Dayton.
64 Diagnostic Significance of Liver Palpation. H. W. Bettman, Cincinnati.
65 *Mind and Medicine. J. S. Rardin, Portsmouth.
66 *Method of Opening the Mastoid Antrum through the External Auditory Meatus as the First Step in the Mastoid Operation. S. Iglauer, Cincinnati.
67 The Rectal Colonic Tube: Its Uses and Abuses. U. S. G. Deaton, Toledo.
68 Ophthalmia Neonatorum from the Standpoint of the Obstetrician. W. Gillespie, Cincinnati.

65. Abstracted in The Journal, May 29, 1909, p. 1783.

66. **Method of Opening the Mastoid Antrum.**—As a result of experience gained from experiments on the temporal bone and the cases reported, the following advantages are claimed by Iglauer for the operation of opening the antrum through the meatus as the initial step in the mastoid operation: 1. The procedure is justified on anatomic grounds, since the anterior inferior wall of the antrum is very thin, and no important structures intervene between the meatus and the antrum. 2. The antrum may be readily and rapidly opened through the meatus, no matter what its depth from the surface, and the burr is kept in full view throughout the operation. 3. The exposure of the antral cavity early in the operation gives valuable information concerning the condition of the mastoid bone. 4. With the antrum fully exposed to view, the remaining steps of the mastoid operation are much simplified. 5. In cases complicated with a forward-lying sinus, it often becomes imperative to work from within outward, and the direct method through the meatus does away with the necessity of introducing instruments into the middle ear, a procedure not unattended with danger. 6. In cases in which the simple operation has been performed, the healing process may be hastened if a portion of the posterior bony meatus is removed at the time of operation. 7. The

electric burr is a safe instrument in mastoid surgery, since it is not apt to penetrate the dura mater and stimulates the facial nerve before endangering its integrity.

### Long Island Medical Journal, Brooklyn

*January*

69 Progress of Medicine for 1909. H. G. Webster, Brooklyn.
70 Progress of Surgery. W. A. Sherwood, Brooklyn.
71 Progress in Dermatology and Syphilology. J. M. Winfield, Brooklyn.
72 Progress in Ophthalmology. J. C. Hancock, Brooklyn.
73 Progress in the Sciences of Ear, Nose and Throat Surgery. W. C. Braislin, Brooklyn.

### Bulletin Lying-in-Hospital of City of New York

*March, 1909*

74 *Abdominal Pregnancy; Operation and Recovery. A. B. Davis, New York.
75 Nephritis in the New-Born Infant. G. W. Kosmak, New York.
76 Two Cases of Cavernous Angioma in Infants. A. B. Davis, New York.
77 *Possible Danger Connected with Intrauterine Irrigations. G. W. Kosmak, New York.
78 Significance of Posture in Obstetrics. A. F. A. King, New York.
79 Excessive Transitory Hypertrichosis Due to Pregnancy. C. F. Jellinghaus, New York.

*June, 1909*

80 Pyelitis in Pregnancy and its Complications. F. E. Sondern, New York.
81 Effect of Hemorrhage on the Condition of the Blood. E. C. Smith, New York.
82 *Pathology of Eclampsia and Toxemia of Pregnancy. J. E. Welch, New York.

74. **Abdominal Pregnancy.**—The abdomen in this case was flat, except in the right lower quadrant, wholly to the right of the median line and extending up from the pelvis midway to the umbilicus, where a large tender elastic rounded mass could be felt. It was not freely movable. Complete chloroform anesthesia was induced and the examination continued. The perineum was intact and the vaginal mucous membrane cyanosed. The cervix was high, centrally located, intact, partially softened and the canal closed. Bimanually, the uterus was found to be slightly enlarged, in a median and anteverted position. The mass above mentioned was found extending directly from the uterus to the right and posteriorly and restricting its mobility. The left side of the pelvis and iliac fossa were found to be clear and free.

The abdomen was opened in the median line by a 12 cm. long incision, well down toward the pubes. The peritoneum was found to be unusually thick, and on opening it a quantity of thin black fluid blood appeared free in the abdominal cavity. The uterus was found practically as described in the bimanual examination, only it was more pushed forward and over toward the left. There was also a smooth, rounded, blue, ovoid cyst extending up from the pelvis half way to the level of the umbilicus. This cyst was ruptured in attempting to lift it up through the abdominal opening. About 800 c.c. of amniotic fluid escaped and floated a well-formed dead fetus of about four-months' growth into view. There was a well-formed placenta attached to the right broad ligament, the posterior wall of the uterus and the right side of the cul-de-sac. The placenta was readily removed, leaving a dirty, yellowish-brown surface with clots, but no fresh bleeding. Long clamps were applied so as to include the right tube and ovary and a triangular portion of the broad ligament; the artery was ligated outside the clamps and the tissue between them cut away and the clamps removed. The raw edges were brought together with a continuous catgut suture. A considerable cavity was thus formed, and about half the length of the appendix was found overhanging the upper edge of this cavity. It was lifted up and found to be surrounded largely with old adhesions. These were broken up and an appendectomy done, the stump cauterized and closed over with peritoneum. The posterior vaginal vault was opened from above with blunt scissors. A strip of iodoform gauze was passed out into the vagina, and all about the placental site was packed with the same material. The abdominal wall was closed in three layers and a sterile dressing and a binder applied. The patient made a perfect recovery.

77. **Danger Connected with Intrauterine Irrigations.**—Kosmak calls attention to the possibility of forcing more or less of the irrigating fluid used to wash out the cavity of the uterus after curettage, through the Fallopian tubes into the general peritoneal cavity. Kosmak reports a case in which, after curettage, the uterine cavity was irrigated in the usual and customary manner, with hot, sterile normal salt solution. A return flow irrigating tube was employed, and although the cervix shut down on it, the heat, no doubt, having stimulated the muscle to contraction, the fluid was apparently all returned. The abdomen was then opened by a median incision for the purpose of doing a ventral suspension operation. Much to Kosmak's surprise, on entering the peritoneal cavity, he found a considerable amount of thin, slightly blood-stained fluid, as to the origin of which he was very much in doubt. There had been no previous evidence of ascites, and the fluid did not appear like the fluid encountered in this condition. He finally came to the conclusion that it must have been the irrigating fluid which had found its way out through the tubes into the general peritoneal cavity.

Within the first twenty-four hours after operation the abdomen had become very much distended and the pain was extremely severe. The face had an anxious look; the tongue was coated; the pulse ranged from 120 to 140; the abdomen was distended and very tender. No flatus was passed, even after the introduction of a rectal tube. The administration of calomel and salts, followed by an enema, did not give the desired result, nor was the paralysis of the intestine relieved by hypodermic injections of eserin sulphate. By the end of the second day the woman's condition seemed serious, she was vomiting almost constantly a greenish fluid, which sometimes had a fecal odor, the tongue was coated, there was considerable dyspnea, the abdominal tension and tenderness were very much increased.

The necessity of securing immediate relief from the condition of intestinal paresis, prompted the administration of croton oil, and two drops mixed with bread crumbs were accordingly administered. The result was excellent, and the patient passed a great quantity of gas and some fecal matter within a few hours. Although some abdominal pain remained, the general condition improved rapidly and nothing further occurred to disturb recovery. The woman was discharged from the hospital at the end of three weeks. For some months afterward she had more or less abdominal pain, particularly if there was any accumulation of gas or if the bowels had not moved sufficiently for several days, giving one the impression as if these disturbances were due to the presence of intestinal adhesions of slight degree.

82. Published in The Journal, Oct. 23, 1909, p. 1358.

### Journal Delaware State Medical Society, Wilmington

*January*

83 Plea for Early Diagnosis of Gall-Stones. J. P. Wales, Wilmington.
84 Urgent Need of Early Diagnosis in Gynecologic Disease. H. M. Thompson, Wilmington.
85 Progress in Medicine. H. J. Stubbs, Wilmington.

### Providence Medical Journal

*January*

86 Treatment of Tuberculosis. J. Perkins, Providence.
87 Clean Milk Supply for the State Sanatorium. F. P. Gorham, Providence.
88 The State's Insane. A. H. Harrington, Howard, R. I.
89 State Commitment of the Insane in Rhode Island: A Barbaric Survival. J. E. Donley, Providence.

### Journal South Carolina Medical Association, Florence

*December*

90 Cholecystitis. C. F. Ross, Anderson.
91 *Expeditious Method for Submucous Resection of the Triangular Cartillage of the Nose. W. P. Porcher, Charleston.
92 Significance of Angiosclerosis in the Eye. C. W. Kolloch, Charleston.
93 Retropharyngeal Abscess. E. W. Carpenter, Greenville.
94 Pathologic Significance of Diseased Tonsils. J. F. Townsend, Charleston.
95 Appendicocecostomy for the Relief of Mucous Colitis and Chronic Diarrhea. H. R. Black, Spartanburg.
96 Recent Discoveries Pertaining to Digestion and Intestinal Disorders. F. Moore, Aiken.
97 Visceral Syphilis. J. B. Sosnowski, Charleston.
98 The Social Evil. D. W. Richardson, Greers.

91. **Submucous Resection of Triangular Cartilage of Nose.**—In Porcher's case, the triangular cartilage was found to be dislocated on the right side, causing considerable flattening of the end of the nose and almost complete occlusion of that nostril. After dissecting up the mucous membrane over the dislocated portion of the cartilage, Porcher decided to use the electric trephine instead of the knife or forceps because the

cartilage proved to be very tough and situated somewhat further back in the nose than usual. With a rather long Curtis trephine two large cones of cartilage were drilled away, the trephine passing through the mucous membrane in the rear. The projecting ends of the cartilage having been removed, the septum resumed its erect position. The mucous membrane was allowed to fall back into position and a compress of cotton was used to hold it so until union took place, which was by first intention.

Porcher asserts that an excellent feature of this operation is that perforation rarely occurs. Unless the angle of deflection of the septum is extremely acute, it is almost impossible to produce a perforation. In a straight septum, the trephine would have to be held at right angles to the partition to penetrate through it, and therefore this accident would only be likely to happen in proportion to the acuteness of the angle or the amount of deflection present.

### Archives of Ophthalmology, New York

*January*

99 After-Effects of Escape of the Vitreous. A. E. J. Lister, London.
100 One Hundred and Twenty-one Cases of Extraction of Cataract in the Capsule, by the Method of Major Henry Smith, Jullundur, India. C. F. Clark, Columbus, Ohio.
101 Case of Cyst of the Iris. D. Webster, New York, and E. L. Oatman, Brooklyn.
102 Dilatation of the Pupil due to Bellflower, "'Datura Arborea." J. S. Fernández, Havana, Cuba.
103 Spectrographic Studies Concerning the Limits of Absorption of our Protective Glasses. O. Hallauer, Basle, Switzerland.

### West Virginia Medical Journal, Wheeling

*January*

104 The Public and the Physician. C. S. Hoffman, Keyser.
105 Enlargement of the Prostate. R. C. Bryan, Richmond, Va.
106 Arithmetic of Milk Modification. J. T. Thornton, Wheeling.
107 End-Results in Fractures of the Long Bones. S. M. Mason, Clarksburg.
108 The Essential Character of Hysteria. T. A. Williams, Washington, D. C.

### Journal of Cutaneous Diseases, New York

*January*

109 Dermatitis Exfoliativa with Fatal Ending in Five Cases. J. T. Bowen, Boston.
110 Treatment of Alopecia Areata and Dermatitis Exfoliativa. G. T. Jackson, New York.
111 *Two Important Parasites of the Skin. E. Costa, Padua, Italy.
112 Certain Diseases of the Skin Observed in the Far East. L. D. Bulkley, New York.
113 Pellagra in Massachusetts. C. P. Fitzgerald, Worcester, Mass.

111. **Parasites of the Skin.**—Costa describes two cases of skin invasion by animal parasites, one the *Dermatobia noxialis* found in some tumefactions on the head, the other the *Sarcopsylla penetrans* found in ulcerations in the region of the nails of the feet.

### Detroit Medical Journal

*January*

114 Medical Defense. E. B. Tibbals, Detroit.
115 Suggestion as a Therapeutic Factor. C. F. Kuhn, Detroit.
116 The Internal Secretion of the Testes. W. M. Donald, Detroit.
117 Early Symptoms of Cancer of the Rectum. L. J. Hirschman, Detroit.

### Quarterly Bulletin Northwestern University Medical School, Chicago

*December*

118 *Food Preservatives and the Benzoate Question. J. H. Long, Chicago.
119 Principles of Treatment of Wounds. J. F. Churchill, Chicago.
120 *Transplantation of Spinal Ganglion into Brain. S. W. Ranson, Chicago.
121 Observations on Sahli's Desmoid Reaction. A. A. Goldsmith, Chicago.
122 Occurrence of *Bacillus Fusiformis* in Membranous Affections of the Throat—Vincent's Angina. M. L. Holm, Lansing, Mich.
123 Nasal Cauterization. O. H. Maclay, Chicago.
124 *The Long Incubation Periods of Syphilis. F. E. Simpson, Chicago.
125 Forthcoming Revision of the Pharmacopeia. J. H. Long, Chicago.

118. **Food Preservatives and the Benzoate Question.**—The simplest thing to add to prevent fermentation, says Long, is an excess of cane sugar, but the very great sweetness which results is an objection to many, and the custom therefore prevails of using in place of part of the sugar a considerable amount of spice, generally cloves and cinnamon. This is in every way legitimate, but these substances are preservatives, and it is for this and not alone for flavor, that they are needed. The bulk of the spice is cellulose or related material, and absolutely inert so far as preserving or flavoring action is concerned, but with the cellulose there are certain essential oils present which are the valuable and active constituents. These active principles are called "natural" substances, but they are "chemicals" at the same time, and they may be made by laboratory methods from substances foreign to the spices and with the same properties found in the spice extractives. If there is no objection to the spice products, why should there be, asks Long, to the same active principle made in an artificial way? Any one, Long continues, who is familiar with the advances of modern synthetic organic chemistry must be able to recognize that there should be no inherent difficulty in thus replacing the active principles of the aromatics with compounds no more harmful than they are, but without marked taste or odor.

In the Northwestern University laboratories six men were under Long's observation, through a period of four months, on a diet far richer in benzoate than they could find in any of the foods on the market which the consumer would be likely to reach. From these experiments and through subsequent studies Long has become convinced of the relative harmlessness of the sodium benzoate as used in the condimental foods. That is, he believes that it is less harmful than the other acid and aromatic bodies used for the same purposes. The experimental work was painstaking, and was carried out through a period long enough to satisfy any reasonable demand. The peculiar conditions described in the "poison squad" bulletin of the Bureau of Chemistry were not observed, and Long believes under proper methods of experimentation they should not be in any case. The men were not fed with capsules, they were not told that they were eating poison, or that they were engaged in a very dangerous experiment. The "poison squad" notion was not kept constantly before them. Long is willing to believe that with the probable psychic disturbances from the causes suggested always present, these men, also, might have become ill occasionally, perhaps frequently. The psychic factor is very important in such work, and he is inclined to think that it may have played a very prominent part in the Bureau of Chemistry results.

Chemically, sodium benzoate is a mild substance and in its ultimate behavior and fate not unlike the aromatic principles of cinnamon and cloves. Indeed, cinnamic aldehyde seems to follow exactly the same course in metabolism, and both are doubtless much weaker physiologically than is the eugenol of cloves. A great deal, continues Long, has been said about the activity of the "interests" in favoring sodium benzoate. It should be apparent to any one who can read, that other and certainly much noiser "interests" are violently fighting it. Medical men should not, he says, be fooled by the situation, or influenced by the silly assertion that the members of the Referee Board are prejudiced, or that they are working in favor of any interest except that of scientific truth.

120. **Transplantation of Spinal Ganglion into Brain.**—Ranson used white rats, two for each experiment. The animal to receive the graft was a month old. Its head was prepared and a small strip of bone removed parallel to the great longitudinal sinus and an incision made in the cerebral cortex in line with the bone defect. A warm pack was then placed over the wound and the second cervical ganglion removed from the neck of a rat one week old. The ganglion was grasped with fine forceps by the short stretch of attached nerve and inserted into the brain wound in such a way that the nerve was deepest in the wound, and the ganglion just beneath the cortex.

Two animals were allowed to live ten days and one two months. The brains from the first two animals were examined for the site of the graft, and this with a piece of the surrounding cortex was excised. Paraffin sections from these were stained with toluidin blue and erythrosin. The third brain was prepared by the Pal-Weigert method and counterstained with Upson's carmin. The sections from the brain of Rat I containing a graft of ten days' standing shows the spinal ganglion imbedded in the substantia alba just dorsal to the radiations of the corpus callosum. It was easily recognized by the abundance of connective tissue and by the presence of the round or polygonal cells characteristic of the spinal ganglion. These were arranged in the shape of a horseshoe, two or three cells deep, around the periphery of the ganglion on the side toward the corpus callosum. All nerve cells had disappeared from the interior of the ganglion. The surviving cells were in various stages of chromatolysis, but the majority of the cells showed only partial solution of the tigroid masses. These cells were much swollen and their nuclei were excentric. No small nerve cells could be seen. These were more susceptible to injury than the larger cells and rapidly disappeared from the transplanted ganglia. Substantially the same conditions were to be seen in Rat II, also representing a ten-day graft.

The spinal ganglion which was allowed to remain in the brain for two months was not as deeply placed as the others, but was imbedded in the cortex near the great longitudinal fissure and covered over by a proliferation of the pia mater. The ganglion was much decreased in size and surrounded by scar tissue. It contained only a small fraction of the number of cells to be found in the normal ganglion but these few cells were of normal appearance, so far as could be ascertained by the carmine stain. The shape and size of the cell body, the position, size and contour of the nucleus and the absence of any proliferation of the nuclei or their capsules justify one in assuming that these cells did not undergo degeneration but survived the transplantation and would continue to exist indefinitely in their new position. A few medullated nerve fibers could be seen in the ganglion. These were gathered together in a bundle which could be traced for some distance in the scar when a series of these sections were studied.

124. **Long Incubation Period. of Syphilis.**—In Simpson's case the onset of the characteristic symptom of "the secondaries"—the roseola—was 142 days after the infection. The length of the first incubation period was ten days and of the second incubation period 132 days.

### St. Louis Medical Review

*December*

126 Gonorrhea in the Male, and its Treatment from the Viewpoint of the Present. H. J. Scherck, St. Louis.
127 Metastasis in Carcinoma. G. McConnell, St. Louis.
128 Civilization: Yesterday—To-day—To-morrow. B. M. Ricketts, St. Louis.

### American Journal of Public Hygiene, Boston

*November*

129 Sanitary Supervision of Communicable Diseases by the Department of Public Health. R. G. Brodrick, San Francisco.
130 *Results of Federal Control of the Manufacture of Viruses, Serums, Toxins, and Analogous Products. J. F. Anderson. Washington, D. C.
131 *Scope of Public Health work in the Prevention of Dependence. H. Folks, New York.
132 Care of Phthisis in Children Through the Out-Door School. C. Floyd, Boston.
133 Day Camp Treatment for Tuberculosis. D. Townsend, Boston.
134 Educational Measures for the Prevention of Tuberculosis. A. M. Wilson, Boston.
135 Home Management of Consumptives. S. F. Cox, Boston.
136 Veterinary Hygiene. W. L. Beebe, St. Paul.
137 Municipal Sanitation. C. V. Chapin, Providence, R. I.
138 Sanitary Engineering Notes. R. S. Weston.
139 Chemical Laboratory Notes. F. C. Robinson, Brunswick, Me.
140 Biologic Laboratory Notes. F. P. Gorham, Providence.
141 Public Health Legislation, News and Notes. F. H. Slack, Boston.

130, 131. Abstracted in The Journal, Nov. 27, 1909, pp. 1843, 1845.

### Journal of Abnormal Psychology, Boston

*January*

142 Personal Impressions of Sigmund Freud and His Work. J. J. Putnam, Boston.
143 The Dyschiric Syndrome. E. Jones, Toronto.

### Journal of Pharmacology and Experimental Therapeutics, Baltimore

*January*

144 *Action of Urea and of Hypertonic Solutions on the Heart and Circulation. J. A. E. Eyster and A. G. Wilde, Charlottesville, Va.
145 *The Gastrointestinal Absorption of Drugs: Action of Phenol on Absorption. T. Sollmann, P. J. Hanzlik and J. D Pilcher, Cleveland, Ohio.
146 Toxicity of Dextro-Camphor, Lævo-Camphor, and Inactive Camphor. W. E. Grove, Madison, Wis.
147 Apparatus for Recording the Outflow of Liquids. W. R. Williams, New York.

144. **Action of Urea and Hypertonic Solutions.**—The experiments described by Eyster and Wilde confirm the earlier results of Lambert concerning the effects of urea on the frog's heart. Urea produces stimulation of the frog's and terrapin's heart. Similar stimulation results from the action of hypertonic solutions of sodium chlorid and of glucose. Urea is effective, however, in isotonic solution, and, the author claims, the action must be regarded therefore as a specific one of urea. In the mammal, hypertonic solutions of urea, sodium chlorid or glucose produce in moderate doses intravenously a transitory marked increase in cardiac output, vasodilation and fall of blood pressure. With larger doses, the cardiac output is decreased and the fall of blood pressure is greater. These immediate effects are followed by an increase in cardiac output and dilatation of the kidney and intestines which develops gradually and continues for a long period. The experiments leave undecided the relative quantitative action of these different substances in the above effects. All that can be said is that there is no striking difference evident and the effects of sodium chlorid and glucose would seem to be approximately equal to those produced by a solution of urea of equal concentration. The increased cardiac output would seem to be a factor in the diuresis caused by the injection of urea or salt solutions, in that it maintains a normal pressure notwithstanding the vascular dilatation in the kidney and intestines. The immediate increase in cardiac output and vasodilatation produced by the injection of urea, sodium chlorid and glucose in hypertonic solutions, would seem to be independent of the production of hydremia and to be referable to a specific effect of these substances. Hydremia may, however, be the partial or sole explanation in the permanent effects on the cardiac output and caliber of the blood vessels described above.

145. **Action of Phenol on Absorption.**—From carefully conducted and extensive experiments the authors conclude that when phenol is placed in the alimentary canal, the absorption is at first very rapid, but is quickly checked and soon practically arrested. The absorption curve varies for different individuals, but the general phenomena are constant, and the average figures for several series agree well. When phenol is placed in the stomach, only traces pass into the intestine; a large proportion could be removed by gastric lavage, even several hours after the phenol was taken. Only traces of phenol are excreted into the alimentary tract. The prolonged presence of phenol, therefore, is not due to re-excretion.

Phenol also checks the absorption of iodid and of alcohol. The retention of phenol is not due to corrosion, for (a) the absorption is delayed rather than favored by dilution; (b) the presence of food probably also hinders the absorption; (c) alcohol hinders the absorption; (d) irritation by formaldehyd favors the absorption; (e) injury of the intestinal epithelium by sodium fluorid does not check absorption; (f) a variable amount of phenol may be absorbed after death. Phenol checks absorption even without local contact—for example, when it is inclosed in a ligated loop of intestine. The degree of absorption is not influenced by the length of the intestinal surface to which the phenol is applied. The interference with further absorption is proportional to the amount of phenol which has been absorbed into the circulation; and not to the amount which is present in the alimentary tract. On the other hand, local changes in the intestinal circulation have the most conspicuous effect on the absorption, generally in the sense that local vasoconstriction diminishes absorption, while local vasodilatation increases absorption. Irritation may act in either direction, according to its grade. A large proportion of the unabsorbed phenol exists in the gastric or intestinal wall in such a way that washing removes it only very slowly and imperfectly. *This obtains* whether the phenol is administered during life or after death. By measuring the circulation time, it could be demonstrated that absorbed phenol slows the intestinal circulation in a specific manner, quite independently of the changes in carotid pressure. The direct local action of the phenol tends to increase the intestinal circulation, but this tendency is quickly overcome by the systemic action when the phenol is absorbed. It appears, therefore, that the inhibitory effect of phenol on absorption is not due to toxic action on the epithelium, but to a specific slowing of the intestinal circulation.

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### Lancet, London

*January 22*

1 Problems Relating to Evolution of the Brain. G. E. Smith.
2 Congenital Acholuric So-called Hemolytic Jaundice in One Family. F. P. Weber and G. Dorner.
3 *Simple Method of Fixation of Complement in Syphilis. J. Sabrazes and K. Eckenstein.
4 Glare, Its Causes and Effects. J. H. Parsons.
5 Pyopneumothorax Due to an Inhaled Tooth or to a Perforation of a Gastric Ulcer; Drainage; Recovery. W. G. Nash.
6 Nephrolithotomy; Use of the Ureter Catheter. J. Clay.
7 Acute Cerebrospinal Meningitis with Severe Choreiform Movements. J. P. Johnson.
8 *Twelve Successive Perforations of Stomach or Duodenum; Eleven Recoveries. T. Carwardine.
9 The Circulatory System (continued.) H. Campbell.

3. **Fixation of Complement in Syphilis.**—The method which Sabrazes and Eckenstein use is practically that of Hecht. The following materials are required: (1) Alcoholic extract of heart muscle (antigen); (2) sheep's blood corpuscles; (3) saline solution (9 per 1,000); and (4) serum to be examined. The tubes are arranged in three rows. The unit generally used is 100 cubic millimeters. The following solutions are added: To Tube 1: One unit of serum, 1 unit of saline solution, 1 unit of antigen. To Tube 2: One unit of serum, 2 units of antigen. To Tube 3: One unit of serum, 2 units of salt solution. The last tube acts as a control. The tubes are incubated at 37 C. for about one and one-half hours. e unit of sheep's corpuscles is added to each tube, and the ole returned to the incubator until hemolysis has taken ce in the control tubes. This generally occurs in from ten to thirty minutes. The tubes are then placed in the ice chest until sedimentation of the non-hemolysed corpuscles has taken place. It would seem that the best time to perform the reaction is from six to twelve hours after the blood has been withdrawn, as this interval allows the clot to retract firmly and furnishes a clear serum.

A positive result is obtained when there is no hemolysis in the first and second tube, but hemolysis in the third tube; a negative result when hemolysis takes place in all three tubes. A trace of hemolysis in the first tube, provided that the second remains clear, may be taken to indicate a positive result. In cases which have been followed from the commencement of treatment, the authors have noticed that the reaction begins to disappear in this way. Should there be complete hemolysis in the first tube and no hemolysis in the second, they regard the result as being negative. Twenty cases have given this result. Of these, 13 were controls, 2 were persons married to syphilitics, but apparently themselves not affected by the disease, 3 were individuals with long-standing syphilis which had been very well treated; the other 2 were hereditary syphilitics and a suspect. Moreover, with a subject certainly non-syphilitic, and whose reaction has been tested on nine different occasions during a period of six months, the above result was obtained twice.

8. **Perforation of Stomach or Duodenum.**—Carwardine attaches great importance to rapid operation, the avoidance of irrigation of the peritoneum, and free drainage, followed by elevation of the patient's body, early feeding by the mouth, and the administration of continuous saline solution by rectum immediately after operation. Inasmuch as subphrenic abscess and empyema are frequent remote causes of death, Carwardine declares that it should be the rule to drain the right and left subphrenic regions in every case of perforated gastric or duodenal ulcer with extravasation, as well as the suprapubic region.

### British Medical Journal, London

*January 22*

10 Gynecologic Difficulties of the General Practitioner. G. E. Herman.
11 Antiferment Treatment of Acute Suppuration. D. MacEwan.
12 *Vaccine Treatment of a Series of Staphylococcus Infections. A. C. Begg.
13 Ulceration of Face and Fauces Treated by Bacterial Vaccines. J. C. MacWatters.
14 *Vaccine Treatment of Pyelonephritis in Pregnancy. C. F. Routh.
15 *Treatment of Gonorrheal and Mixed Infections of Female Genital Tract by Lactic Acid Bacilli. D. Watson.
16 Early Symptoms of General Paralysis; Recovery Under Soamin. R. Prichard.
17 Intravenous Injections of Soamin in Cerebrospinal Meningitis. T. A. Johnston.
18 Treatment of Sleeping Sickness. R. Van Someren.
19 Treatment of Phthisis and Other Conditions by Arylarsonates. R. A. Lundie and R. H. Blaikie.
20 *Pemphigus Neonatorum Occurring in Practice of a Midwife. M. M. Smith.

12. **Vaccine Treatment of Staphylococcus Infections.**—Begg is convinced of the efficacy of vaccine treatment in most staphylococcus infections. Staphylococcus skin lesions, however chronic, are curable by its means; in many cases estimation of the opsonic index is unnecessary. The best results are only obtained by the use of autogenous vaccines.

14. **Vaccine Treatment of Pyelonephritis.**—A young married woman, aged 30, with one child aged 7, had suffered from the age of 14 from chronic constipation and an "irritable bladder," with frequent micturition. For many years also she had been unable to lie on the left side for any length of time, as that position always caused pain in the right loin sufficiently severe to awaken her if asleep. In June, 1907, she suffered from an attack of acute pain running up from the right iliac region toward the right kidney, with tenderness over the appendix, which lasted some days. She enjoyed good health until June, 1908, early in which month she became pregnant. On October 1 she had another attack of pain, similar to the first, lasting several days and accompanied by fever. This was also looked on as a mild attack of appendicitis. On Jan. 2, 1909, she had a severe rigor, followed by acute pain in the right iliac joint. This was followed on January 4 by vomiting. January 6 she was evidently acutely ill: temperature 103 F.; pulse 120; constant vomiting and great abdominal tenderness, especially over the appendix; and pain running from the ascending colon to beneath the liver. Micturition was frequent and painful, and there were severe rigors followed by profuse perspiration and great exhaustion. On Jan. 9, 1909, pus was found in the urine, which was acid and free from smell.

It became evident that the trouble was due to some lesion in the right kidney. A pure culture of *B. coli* was obtained from the urine, and from this a vaccine was prepared. The opsonic index was 1.8. The first injection was given on January 12, and within six hours the temperature fell from 104 F. to normal, and the pulse which had varied from 120 to 160, fell to 104. Five days after the injection the opsonic index was 2.5. From this date to January 24, the pulse never rose above 104, nor the temperature above 100 F., though all other symptoms remained as acute. On January 24 two rigors occurred, and the temperature rose to 102 F., only to fall to subnormal the next day, at which point it remained. The patient was kept in bed on light diet, and gradually increasing doses of vaccine were given every eighth day until six had been administered. On February 28, a healthy female child was born, the labor being perfectly normal. The patient made an uninterrupted recovery, and three weeks later the urine was free from pus and *B. coli*.

15. **Treatment of Gonorrheal Infections of Female Genital Tract.**—After a thorough disinfection of the parts (including curetting when necessary), all excess of disinfectant is removed and the lactic fluid introduced into the vagina. The first effect of the treatment, says Watson, may be an increase in the amount of discharge, which, however, is completely altered in character. The purulent appearance ceases, and the discharge is white and thin. This is removed daily by gentle swabbing with dry wool through a speculum. In the most favorable cases the secretions are normal in a few days. In other cases the treatment is repeated weekly until cure is complete, usually in from two to three weeks. Even patients in whom the tubes are involved seem to benefit by the treatment and can be discharged from hospital earlier than used to obtain.

20. **Pemphigus Neonatorum.**—A malignant outbreak took place in the practice of a midwife. There were 4 cases, 3 of which were fatal. The midwife attended 7 other lying-in women during this time, none of whose children developed the disease. In all the cases the mothers did well, and there was no history of sepsis. There was no infection of other members of the household. The original source could not be traced. So far as could be ascertained syphilis did not play any part in the disease, and no information was obtainable

that the midwife had any septic illness. The organism found was *Staphylococcus pyogenes aureus;* it did not differ appreciably from the ordinary variety.

### Medical Press and Circular, London

*January 12*

21 [illegible] tion of the Stomach. R. Bousquier.
22 *[illegible] mer-Toe. W. I. de C. Wheeler.
23 [illegible] W. MacGillivray.
24 [illegible] in Dissemination of Disease; Effect of Petroleum as an Insecticide. J. S. Purdy.
25 Pyorrhea Alveolaris and Other Conditions Causing Septic Mouths. W. H. Dolamore.

*January 19*

26 Significance of Involuntary Muscular Contractions and Behavior with Atropin as Regards Pathology, and Treatment of Gonorrhea in the Male. C. Schindler.
27 Roentgen-Ray Treatment of Nervous Itching of the Skin. H. W. Schmidt.
28 Why Have We English "Members" and Scotch "Licentiates?" J. C. McWalter.

22. **Operation for Hammer-Toe.**—The hammer-toe is encircled by rubber tubing held in position by an artery forceps on the dorsum of the foot. This tubing is applied prior to the injection of a local anesthetic. An elliptical incision is made which freely exposes the joint, when the skin bearing the corn is removed. The tubing prevents diffusion of the local anesthetic. This incision gives free access to the affected joint, and at the completion of the operation the suturing of the margins of the wound brings the toe into a straight position without the aid of any splint. The central strip of the extensor tendon is divided and the head of the first phalanx protruded through the lateral portions. The head is now removed freely with a bone forceps or fine saw, and the toe brought into position by the approximation of the widely separated skin edges. A collodion dressing is applied, and over it a strip of adhesive strapping. It is laid over the wound and proximal phalanx, with the adhesive surface uppermost; the ends are then passed under the adjoining toes, to which they become fixed. This counteracts any tendency to hyperextension of the affected digit. The patient from the first is allowed to walk about in an easy shoe, and after a fortnight all dressings are discarded.

### Australasian Medical Gazette, Sydney

*December*

29 *Case of Botryomycosis in Man. A. G. Butler and D. A. Welsh.
30 Artificial Feeding in Infants. E. E. Bourne.
31 Cerebrospinal Meningitis Treated by Vaccine. J. F. Flashman and F. H. Furnival.
32 Points in Isolation of Organisms in Cases of Food Poisoning. B. Bradley.
33 Tidswell's Researches on Australian Venoms. R. Pulleine.
34 Clinical Aspects of Acetonuria. H. J. Ritchie.
35 Decompression in Treatment of Fracture of the Base of the Skull. A. M. Cudmore.

29. **Botryomycosis in Man.**—The patient, a healthy boy of 4 years, had had for nearly a year a swelling outside the left orbit. The swelling was over the left temporal bone, and there was apparent softening of the bone outside the left orbit and swelling of the eyelid. There was also marked proptosis. Clinical examination pointed to sarcoma as a possible diagnosis. The swelling was incised; it was found to be caused by suppuration of a somewhat unusual nature in that the pus was scanty and contained numerous small yellow granules. The pus was regarded as being clinically characteristic of actinomycosis. The subsequent history of the case is that a fistulous sinus formed and fresh pockets of pus were discovered which required further operation. After thorough opening and scraping of these, and ordinary surgical treatment, they healed, the proptosis disappeared, and the child was discharged. Potassium iodid had been given under the impression that the case was one of actinomycosis.

Examination of the pus failed to reveal the expected actinomycotic fungus, and this was reported to the surgeon. The result was received by him with some scepticism, and further investigation was urged. Cultural and experimental tests are still in progress. Butler and Welsh suggest that there is sufficient evidence to make it probable that the case described, and possibly others not recognized, represent conditions of botryomycosis occurring in man. They have seen a few cases in which the clinical features of the lesion, and the naked eye appearance of the pus were regarded as characteristic of actinomycosis and yet the most careful microscopic and cultural examination failed to reveal any streptothrix.

### Dublin Journal of Medical Science

*January*

36 Physiology of the Pylorus. W. H. Thompson.
37 Trachoma. A. H. Benson.

### Glasgow Medical Journal

*January*

38 Symptoms and Diagnosis of Duodenal Ulcer. A. E. Maylard.
39 *Acute Hemorrhagic Leucemia. W. K. Hunter.
40 Advances in Gynecology in Recent Years. J. M. M. Kerr.
41 *Rupture of Vessels of the Neck into the Pharynx in Scarlet Fever. J. H. Griffiths and D. F. Riddell.
42 Formation and Early Days of the St. Andrew's Ambulance Association. Sir G. T. Beatson.

39. **Acute Hemorrhagic Leucemia.**—The patient, a young woman, aged 22, dated her illness from a bleeding of the gums she had four weeks before Hunter saw her. A fortnight later there appeared blood in the urine, and this persisted. The temperature was 100 F.; pulse 120. The skin and mucous membranes were pale, and blood was exuding from the gums and clotting round the roots of the teeth; the breath had a most offensive odor. There were no purpuric spots in the skin, but a few bluish markings like slight bruising. The urine presented the appearance of blood-stained serum. There was no enlargement of the liver, spleen or lymphatic glands to be made out.

The red corpuscles numbered 2,680,000 per c.mm.; the white corpuscles 59,375 per c.mm.; and the hemoglobin registered 45 per cent. There was little poikilocytosis. There was a considerable proportion of nucleated red cells—about two to the hundred white cells. The vast majority of the white corpuscles were medium-sized mononuclear cells, with fairly well-stained nucleus, and the surrounding plasma less deeply stained. In a proportion of the cells this plasma (with Leishman's stain) had a rather leaden tint, while in others there were granules staining the same tint as the nucleus of the cell. In films stained with methylene blue only, these granules stained blue. No typical "large lymphocytes," i. e., cells with large pale nucleus and rim of darker stained plasma, were to be seen, and only an occasional neutrophil marrow cell was present. The patient lived eight days after this blood count, the whole duration of illness, so far as could be determined, being about five weeks.

41. **Rupture of Vessels of Neck Into Pharynx in Scarlet Fever.**—A boy, aged 9½ years, had a typical mild attack of scarlet fever, which ran a normal course with no complications till the twenty-third day of the disease when the temperature rose to 101.4 F., and the boy complained of pain in the right side of the neck. The next day the glands on the right side of the neck were enlarged and tender. This condition continued. On the twenty-eighth day the swelling in the throat presented the appearance of suppurative tonsillitis; a swelling could just be felt behind the right tonsil. The external swelling was excised; no pus. On the next day the swelling behind the tonsil was soft, and the wall broke down under slight pressure of the finger, the tip of which passed into a cavity about the size of a hazel-nut, and this was followed by a rush of dark-colored blood. The hemorrhage was profuse and uncontrollable, and the patient died in about a minute. A postmortem examination was held. There was no ulceration of the fauces. Both tonsils were clean; right side of palate was edematous and right tonsil swollen. Behind the right tonsil was an irregular-shaped cavity, about the size of a hazel nut, the inner wall of which was broken down. This cavity was lined with laminated blood clot, about one-eighth of an inch thick, easily detachable, and forming a complete inner shell. Some loose blood clot was found inside. The internal jugular vein was connected with the outer wall of the cavity. Three large glands, about the size of a walnut each, were found between the right jaw and sternomastoid. The trachea was full of blood. All other organs appeared normal.

In the second case, rupture of the internal carotid occurred suddenly. The child was sitting propped up in bed taking some rice pudding, when he gave a sudden cough, which was followed by profuse arterial hemorrhage from the mouth, completely saturating the bedclothes. He died almost immediately. On dissection of the right side of the neck two enlarged glands, about half the size of a small walnut each, were found. These were just breaking down. The large vessels were dissected out as far as possible, and on the inner side, at about the level of the angle of the jaw and just behind the pharyngeal wall, a small cavity, large enough to contain a small hazel nut, was found with some blood clot. The walls of this cavity were ulcerated, and at the upper part the internal carotid was found to be involved in the ulceration. A rupture of the wall of the artery was found. On the opposite side of the cavity a corresponding tear was found in the posterior pharyngeal wall. There was no evidence of ulceration internally in the pharynx, the mucous membrane of which was found to be intact, except at site of rupture. Both tonsils showed slight superficial ulceration, which seemed to be healing.

### Annales de l'Institut Pasteur, Paris

*December, XXIII, No. 12, pp. 937-1044*

43 *Lack of Intestinal Flora in Bats. (Roussettes et microbes.) E. Metchnikoff and Others.
44 Histophysiologic Research on Aseptic Autolysis of the Liver. (Autolyse aseptique du foie.) L. Launoy.
Sab. 45 Epidemic of Yellow Fever at Martinique. (Etude de l'épidémiologie amarile.) Simond, Aubert and Noc. Commenced in following mateading number.

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**43. Digestion Wi... Intestinal Flora in Bats.**—Metchnikoff and his assistants have made a special study of the large fruit-eating bat of the tropics, the connecting link between birds and mammals. It has no cecum and the large intestine is very short so that the food residue is rapidly expelled, as in birds. This animal shows that digestion can occur without the aid of microbes in the intestine. Digestion proceeds by the digestive juices alone. This bat expels its dejecta very rapidly, and thus mechanically sweeps out any microbes ingested, so that the intestine contains scarcely any. The facts observed with very young animals, chickens and tadpoles should not be regarded, Metchnikoff says, as contradictory, as in them the digestive power is still incompletely developed, and the aid of microbes may be of great importance for digestion in their case. The absence of intestinal flora in the bat explains the lack of aromatic substances in the excreta, such as indol, skatol and the phenols, and this finding confirms the assumption that these substances are not produced by the animal organism, but by the microorganisms inhabiting the intestines. He thinks that the same statement applies to urobilin, the bacterial origin of which is more generally accepted. Another point brought out in this research is that as the digestion in the bat is done exclusively by the digestive juices, these must also be responsible for the digestion of cellulose. It has not proved possible to isolate the ferments which perform this work, but the good digestion in the bat of fruit rich in cellulose shows that microbes are not necessary for the digestion of the latter.

### Archives Générales de Chirurgie, Paris

*December, III, No. 12, pp. 1211-1320*

46 Anatomic Type of Fracture of the Calcaneum. A. Binet and Trenel.
47 Inflammation of Anterior Tubercle of the Tibia. (Apophysite tibiale.) D. Zesas.
48 Simultaneous Diverticulitis and Appendicitis. Mauclaire and Douay.

### Archives Générales de Médecine, Paris

*December, LXXXIX, No. 12, pp. 869-906*

49 *... Edema During Pregnancy and Parturition. (Oedème dans l'état puerpéral.) L. Pouliot.
50 ... of *Bacillus perfringens* and Bacillus of Acute Articular Rheumatism. G. Rosenthal and P. C. Wetzel.
51 Radioactive Mud in Treatment of Acute Exacerbations of Gonorrhea in Women. (Les boues radio-actives dans le traitement des poussées inflammatoires aigues, d'origine gonococcique chez la femme.) S. Fabre and P. Lutaud.

**49. Edema of the Lungs in Pregnancy and the Puerperium.**—Pouliot discusses the origin, means of prevention and treatment. He has found 10 cases on record in which the edema developed in the lung in consequence of some heart lesion, with only 3 survivals; 6 cases in which the eden
result of the toxemia of pregnancy, with 3 survi
cases in which the edema followed administratio
pin given to relieve albuminuria or eclampsia.
women in this group recovered. He tabulates th
the various cases, and calls attention to the n
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arterioles and capillaries in the lungs. This vasodilatation may be a nervous vasomotor phenomenon of reflex origin or the result of the action of toxins on the nerve centers. Edema of the lungs is one of the gravest complications of parturition, both for mother and child. As the maternal blood suffers from lack of oxygen, it draws on the reserve oxygen in the blood of the fetus, so that, as a rule, the fetus is asphyxiated before the mother succumbs. In prevention he advises against marriage and pregnancy for girls with adherent pericardium, mitral lesion complicated with albuminuria, pulmonary tuberculosis or scoliosis, and, if pregnancy occurs, it should be supervised with extreme care to ward off retention of salt and arterial hypertension. With failing compensation, he warns against inducing abortion in case of any of the above complications. If labor has commenced, it must be borne in mind that this frequently gives the final stroke to an already overworked heart and thus starts the pulmonary edema, consequently all should be in readiness to hasten delivery with instrumental dilatation, version or forceps. Delivery and the first hours thereafter are the most critical from the standpoint of edema of the lungs. The possibility of edema should be borne in mind, and heart tonics given to women with pneumonia, influenza or rheumatism, restricting to the minimum the intoxication from the food, and especially reducing the intake of salt in those showing the least tendency to albuminuria. No harsh measures should be used, or injection of salt solution; if the latter is deemed necessary, it should be given only in fractional doses and subcutaneously, not intravenously. Asphyxia is best combated by immediate venesection, withdrawing at least 500 gm. of blood. The danger from loss of so much blood when the woman has already lost a considerable amount is much less than the danger from the acute edema of the lung. After the venesection, subcutaneous injection of apomorphin may aid in promoting expectoration of the fluid while reducing the pressure in the circulation through the lungs. Inhalation of amyl nitrite in this condition has proved disappointing. The heart should be sustained in the meanwhile with the usual tonics; camphorated oil is not only a vigorous tonic for the heart, but it has a sedative action on the respiratory spasm, while it is comparatively harmless. He advises injecting up to 10 c.c. of a 10 per cent. solution. Inhalation of oxygen is also a useful adjuvant. One case at least is on record in which Cesarean section twenty minutes after death delivered a viable child.

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### Presse Médicale, Paris

*January 8, XVIII, No. 3, pp. 17-24*

52 Cytology of the Urethra in Chronic Urethritis. (Diagnostic des séquelles inflammatoires des urétrites chroniques.) J. Baur.
53 Phototherapy and Radiotherapy of Acne and Acneiform Lesions. H. Bordier.
54 Fracture of Terminal Phalanx of Finger. (Désinsertion phalangettienne du tendon extenseur.) R. Bonneau.

*January 12, No. 4, pp. 25-32*

55 Ultraviolet Rays. (La lumière ultra-violette.) A. Tr (Les propriétés physiques des rayons ultra-violets.) M (Les rayons ultra-violets et leurs applications à la st tion.) V. Henri and G. Stodel.
56 Primary Tumor of the Liver. (L'hépatome: tumeur pr du foie.) L. Rénon, E. Géraudel and R. Monnier-Vi

*January 15, No. 5, pp. 33-40*

57 Present Status of Bronchoesophagoscopy. P. Sebileau Lemaitre.
58 Adherent Inguinal Hernia of the Cecum. G. Lardenno J. Okinczyc.

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### Semaine Médicale, Paris

*January 19, XXX, No. 3, pp. 25-36*

59 Phenomena of Reaction to Softening of the Brain, Aseptic or Inflammatory. (Les phénomènes réactionnels du ramollissement cérébral aseptique, leurs caractères différentiels d'avec l'encéphalite compliquée de ramollissement.) J. Lhermitte and H. Schaeffer.

### Beiträge zur Klinik der Tuberkulose, Würzburg

*XIV, No. 4, pp. 359-476. Last indexed Dec. 25, p. 2180.*

60 *Tuberculin Treatment of Pulmonary Tuberculosis. G. S
61 E ts to Immobilize the Lung by Plastic Oper- (Versuche zur Lungenkollapstherapie ) R. Eden.
Between Extremely Large Cavities in thorax. L. Brauer and W. A. Gekler.
on Origin of Pulmonary Emphysema. genemphysems.) H. Schall.
to Avoid in Surgical Pneumothorax to (Erfahrungen und Ueberlegungen zur II.) L. Brauer and L. Spengler.

60. **Improved Technic in Tuberculin Treatment.**—This article was read at the annual meeting of the medical directors of the German sanatoriums for lung disease last October. Schröder reviews his experience with 25 cases in which tuberculin treatment had been systematically given by other physicians according to the generally approved technic, and the patients had been discharged as practically cured. They came to Schröder's sanatorium, however, not long after with severe recurrence of symptoms and acute spread of the tuberculous process. In each case the tuberculin had been given with gradually increasing doses until it was tolerated without any reaction. But not long after the course of treatment a tuberculous process developed in the larynx in 4 cases, in the intestines in 2, once each in the kidney, meninges, testicles and epididymis, middle ear, knee, hip and tonsil, and in 8 cases there was serious breaking down of lung tissue and in 6 the onset of galloping phthisis. He suggests the possibility that the tuberculin may have rendered more active already existing but occult foci. In some of the cases the process was finally arrested, but in the majority the disease progressed to a speedily fatal termination. This group of cases demonstrates, he affirms, that tuberculin treatment continued until it induces no further reaction, that is, until the patient is "toxin-fast," does not protect against the spread of the tuberculosis and may even favor it. He insists that the effort to render the organism artificially toxin-proof is based on a mistaken conception of what is needed, as he explains in detail. The true principle of effectual tuberculin treatment is with the most minute doses, Wright's and others' research having demonstrated that even the smallest doses of a specific vaccine seem to be able to stimulate the production of antibodies. Autoreinfection from the patient's own focus during physical exercise may answer this purpose to a certain extent. On this basis Schröder has applied tuberculin in treatment of 60 tuberculous patients in the last few years, using in 45 cases "bacillus emulsion" and in 15 "Perlsucht old tuberculin." The doses were from 0.00005 mg. to 5-8/10000 mg. of the former and from 1/1000 to 1-2/100 mg. of the latter, allowing 10 or 14 days between each injection and reducing the size of the dose if anything indicating a general or local reaction was detected. In this group of patients 12 were in the first, 30 in the second and 18 in the third stage of tuberculosis. Tubercle bacilli vanished from the sputum in 21 of the 42 patients with open lesions. The results on the whole, he declares are better than have been realized elsewhere in Germany with the same class of patients. In 50 cases the patients had fever and normal temperature was permanently restored in 41. He claims that this method of treating tuberculosis with the most minute doses of a specific antigen, relinquishing all attempts to render the patients non-sensitive to the toxin, is a great improvement over the usual methods of administration and, while perfectly harmless, is proving a most valuable adjuvant to hygienic-dietetic measures by stimulating the production of antibodies in the most harmless way. A local reaction in the focus was frequently detected, which he assumed to be an inflammatory reaction, and he always kept the patients entirely quiet thereafter for a day or so to prevent further injury. To attempt to magnify this local reaction by physical exercise or work is both useless and dangerous, he affirms. The aim of administration of these minute doses of the specific antigen is to promote the cheesy degeneration, softening and throwing off of morbid products while refraining from favoring the spread of the disease to the surrounding sound tissue or driving out the tubercle bacilli and their toxins to flood the organism. Under all conditions, he adds, this treatment with the specific antigen requires that the patient should be kept under permanent clinical control. Ambulant treatment he denounces as dangerous.

64. **Surgical Pneumothorax in Treatment of Pulmonary Tuberculosis.**—This extensive article is a discussion of the technic, the dangers and the results of immobilization of the lung as practiced by Brauer and Spengler. They also review 5 fatalities which have occurred in connection with surgical pneumothorax, and show the blunders in technic which permitted them. Air embolism is the chief danger, and an incision is necessary for the first insufflation; ignorance as to where the tip of the needle is going is too hazardous. Some of the cases of air embolism from injury by this means have been reported as reflex spasm or eclampsia of the pleura, a conception without analogy under other conditions.

### Berliner klinische Wochenschrift, Berlin

*January 3, XLVII, No. 1, pp. 1-44*

65 *Points in Physiology of the Brain Learned from Operative Experience. F. Krause.
66 *Surgery of Blood-Vessels. (Gefässchirurgie.) S. Hadda.
67 Cesarean Section for Placenta Prævia. (Kaiserschnitt bei Placenta praevia.) B. Krönig.
68 Milk Albumin in Infant Feeding. (Milcheiweissfrage in der
A. Bickel and H. Roeder.
60 Nc After Birth. (Die "physiologische
Neugeborenen.) J. Hirsch.
70 Seroreaction with Echinococcus Cysts. H. Lippmann.
71 Atypical Reaction to Roentgen-Ray Exposures. (Atypische und weniger bekannte Folgeerscheinungen nach Röntgenbestrahlung.) A. Zehden.
72 Angina and Chronic Recurring Parotitis. W. Lublinski.

65. **Physiologic Data in Regard to the Brain Learned from Operative Experience.**—Krause has had success in a number of cases of operative treatment of epilepsy; but he never excises more than an area of 24 x 30 mm., 5 or 8 mm. thick. The disturbances after the excision are startling, but they usually subside in a few days or weeks. He describes them in detail as also the motor disturbances in speech which he has observed in several cases after excision of the cortex and which his experience has more definitely localized. The surgeon undertaking operations on the brain should master the technic of electric stimulation of the cortex, although never forgetting that he is working not for physiologic but for therapeutic purposes. The visual disturbances are further described; in one case a tumor in the occipital lobe was diagnosed mainly by the hemianopsia. After the operation in one case there were peculiar visual hallucinations for a week, but finally even the hemianopsia subsided and the patient has been well during nearly four years since. In a case of sarcoma in the vicinity of the optic nerve there was no hemianopsia, but this developed afterward, probably from the tamponing necessary, and it has persisted to date. The remarkable rise in temperature and pulse after operations on the brain was observed in several cases, but with no other signs of fever in most cases; in one the temperature continued for three months. In one case a chill and vomiting accompanied the recurring high temperature during three months, but the patient is now in good health after an interval of three years.

66. **Suture of Vessels.**—Hadda describes the technic with which he has been able to suture the femoral artery and vein to induce anastomosis between them without checking the flow of blood at any time. His experiments were made on dogs, and 7 of the 11 operations were entirely successful. His technic excludes seizing the vessels with forceps; he uses an instrument consisting of two fine knife-blades, tapering to a point, with which the vessels are cut after they have been sutured, not before. He says it is interesting to see the arterial blood pour at once into the vein without interruption at any time of its flow.

### Deutsche medizinische Wochenschrift, Berlin

*January 13, XXXVI, No. 2, pp. 57-104*

73 *Chronic Cystic Cerebral Meningitis. (Zur Meningitis chronica serosa circumscripta des Gehirns.) H. Oppenheim and M.
74 Hess.
75 Hypnotics. (Wirkung von Nar-
Bürgi. Commenced in No. 1.
76 Carriers. (Zur Behandlung der
H. Bethge.
77 S P. Hampeln.
78 I Meat Poisoning. (Paratyphusbazillen und Fleischvergiftungen.) E. Hübener.

73. **Circumscribed Chronic Serous Cerebral Meningitis.**—Oppenheim reports a case which demonstrates that a circumscribed serous meningitis ma vel in the posterior cranial fossa, consecutive to v he symptoms of which resemble those of a brai y every respect. The prognosis, however, is g urgical interference. When signs of meni re particularly pronounced in dubious cases shows marked exacerbations with long rem lity of serous meningitis should be borne i in conditions a pulsating vascular murmu nilar to that

of aneurism of the basal arteries. If the disturbances do not subside under iodin and mercury, operative intervention should be considered. This proved entirely successful in a case reported in detail, except that the vision had been lost in one eye and was much impaired in the other before the parents consented to operation. The danger to vision should hasten the decision in such cases. Lumbar puncture alone seemed to aggravate the condition, although only 2 c.c. of fluid was withdrawn. Borchardt completes the report by adding the surgical details. The patient was a girl of 9.

### Fortschritte der Medizin, Leipsic

*January, XXVIII, No. 1, pp. 1-32*

79 Principles of Immunization Against Bacterial Toxins. H. Much.
80 Advantages of Physical Measures in Treatment of Heart Disease. E. Plate.

### Medizinische Klinik, Berlin

*January 9, VI, No. 2, pp. 45-84*

81 *Cy[illegible] reculosis of the Kidney in Boys. [illegible] der Nierentuberkulose beim [illegible]
82 History, Anatomy and Technic of "Spinal Anesthesia." (Rückenmarksanästhesie.) H. Sellheim.
83 *Indications and Contraindications for Rectal Injections and Enemas. (Dickdarmeinläufe und Klistiere.) I. Boas.
84 Osmotic Concentration of Mixtures of Milk for Infant Feeding and Its Practical Importance. (Die osmotische Konzentration der Säuglingsmilchmischungen und ihre praktische Bedeutung.) Engelmann and Kock.
85 Urobilinuria. Huber.
86 Thirty-five Cases of Tonsillitis with Sepsis. L. Liebl.
87 The Permeability of the Meninges. V. Kafka.

81. **Cystoscopic Diagnosis of Renal Tuberculosis in Boys.**—Portner remarks that cystoscopy in girls, even only a year old, is no more difficult than in adults, but that in boys the small caliber of the urethra interferes with the introduction of the cystoscope. The possibility of renal tuberculosis should always be borne in mind in a case presenting the three symptoms of abnormally frequent micturition, pain in the bladder and pyuria; and the kidney functioning should always be tested to determine the condition of the other kidney. Inoculation of animals should be the routine practice in every case of pyuria which does not show a prompt turn for the better soon, especially in children. Every tuberculous process in the urinary organs has one stage in which it is strictly localized to the organ in question, and it is the practitioner's duty to diagnose it while it is in this surgically curable stage. In a case Portner describes at length the above triad of symptoms was assumed to indicate bladder stone, but a suprapubic incision showed the bladder empty, and 4 guinea-pigs injected with the urine all developed tuberculosis. Such cases confirm the importance of prompt cystoscopy; it is possible to use a small caliber cystoscope on a boy 2 years old and up, and to catheterize the ureter from the age of 8 up. General anesthesia is indispensable, and this is the most difficult point of the technic, as superficial anesthesia is inadequate. The bladder reflex persists longer than the corneal, and unless it is fully stilled the bladder will be intolerant of the fluid introduced and will expel it or may bleed. No attempt should be made to introduce the cystoscope until the pupils are contracted and cease to react. The bladder mucosa was found normal in the case described, but there was a possibility that the pus cells observed came from both kidneys. Functional tests of the kidney requiring catheterizing of the ureters or segregation of the urine could not be attempted in this small boy, but the indigocarmin test—chromocystoscopy—was applied at once, the child being still under the influence of the anesthetic. An injection was made in the buttocks of 20 c.c. of a 4 per cent. solution of the stain. In normal conditions the urine is seen to become blue in from 8 to 10 minutes; but in this case 12 minutes elapsed before the blue urine spurted from the right ureter, and not until after 21 minutes did the urine from the left ureter show a tinge of blue gradually deepening in the next 3 minutes—a difference of 9 minutes to the discredit of the left kidney. The absence of cachexia in this case indicated that the process was not bilateral. The slight delay with the urine from the right kidney suggested caution, however, so that the parents' dread of an operation turned the scale and merely a course of tuberculin treatment was instituted. This was the more justified, as the lack of tuberculous processes in the bladder rendered ascending infection of the sound kidney improbable. In another case prompt nephrectomy put an end to the distressing pains and tenesmus, but the second kidney was evidently involved in the process, as surmised from the fact that neither of the ureters passed tinted urine after injection of indigocarmin. The involvement of the second kidney must have been of recent date, as the mouth of the right ureter seemed to be normal; the child's general health was also not much impaired, and the conditions in this case promise a favorable outcome. Local treatment of the bladder with solution of bichlorid of mercury is useful after nephrectomy, but it is of no use, Portner says, when both kidneys are tuberculous, and it only torments the patients unnecessarily. As a rule, tuberculosis of the urinary apparatus seems to be more malignant in children than in adults, but Portner thinks that this impression is perhaps only due to the fact that we have not learned to differentiate it early enough. It is not so long ago that the same pessimism prevailed in regard to renal tuberculosis in the adult.

(An illustrated description of the method of chromocystoscopy was given in The Journal, Jan. 2, 1904, page 69. See also page 2005, Dec. 5, 1908.)

83. **Indications and Contraindications for Enemas.**—Boas discusses the change in opinion in late years in regard to the efficacy of medicinal injections into the intestines, his view being that astringent and other medicated enemas do more harm than good and are liable to induce inflammation and aggravate the existing. Even plain water enemas are liable to induce or aggravate mucomembranous enteritis, while all disturbances may cease when the constipation or the diarrhea is cured by dietetic measures. In cases of severe constipation, continuous irrigation with soapy water and a two-way tube, with the patient on the side or in the knee-elbow position, continuing with several quarts or until the water comes away free from feces, is the most effectual measure for severe acute or chronic coprostasis, far surpassing, Boas asserts, injections of oil, although he sometimes adds a few hundred grams of olive oil to the water. Under other conditions enemas are of little value unless the lesion is accessible in the rectum, in which case benefit may be derived from protecting powders, such as bismuth. Except with tuberculous or syphilitic ulcerations he has always found that the process started to heal when treated with a 5 per cent. suspension of bismuth or the latter insufflated dry.

### Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

*January, XXXI, No. 1, pp. 1-150*

88 Arguments in Favor of Classic Technic for Cesarean Section. (Ein Wort für den klassischen Kaiserschnitt.) F. Schauta.
89 *Streptococcus Infection and Leucocytosis. W. Zangemeister.
90 Malformation of the Limbs in New-Born Infants. (Extremitätenmissbildungen [illegible]
91 Muscle Plastic Restor[illegible] reatment of Genital Prolapse. ([illegible] eckenbodens mit Hülfe des M. le[illegible] maximus.) J. Tandler and J. Halban.
92 Laparotomy for Incarcerated Retroflexion of the Gravid Uterus. E. Puppel.
93 *Yeast in Treatment of Leucorrhea. (Neuere Versuche über die Hefebehandlung des weiblichen Fluors.) O. Abraham.
94 Outcome in Eighty Cases of Uterine Cancer. (Karzinomstatistik der Kgl. Universitätsfrauenklinik zu Halle a. S.) J. Veit.

89. **Streptococcus Infection and Tuberculosis.**—Zangemeister's experimental research and clinical experience have shown that certain features of the blood count with streptococcus infection may prove important for diagnosis and prognosis, as he explains in detail.

93. **Yeast in Treatment of Leucorrhea.**—Abraham announced in 1902 that living yeast had a destructive action on bacteria, and most of all on the gonococcus, killing the latter in 6 hours' contact, streptococci in 32 and staphylococci in 40. Killed yeast cells do not have this bactericidal action unless mixed with sugar. The bactericidal action is not connected with the living cells or fermentation products, as it continues after the cells have been killed, as in compressed and dried yeast, if mixed with sugar, but not without this admixture. He applied the facts thus learned to treatment of leucorrhea, and his experience in this line, he states, has confirmed the efficacy of yeast in treatment of gonorrheal and non-gonorrheal inflammation, erosions and similar lesions, both vaginal

and uterine. For the last year or so he has mixed the yeast with bolus alba as the most convenient vehicle. This ensures also the advantages of the bolus. He adds to the mixture also a little sugar and alkali, the latter in the form of magnesium sulphate, sodium phosphate and carbonate and potassium carbonate. The powder formed by this combination is durable; he applies it by insufflation or introduces it in a gelatin capsule. The bolus alone cures temporarily, he says, but does not remove the cause, so the trouble returns afterward, but the above combination seems to have a prompt and thorough action, not only drying up the source of the secretion, but destroying the gonococci and other germs. Recent gonorrheal colpitis subsides rapidly under its influence; erosions heal more slowly. Lesions in the uterus also heal as the sources of irritation and of constant infection in the vagina are cured. It is necessary, however, to mop out the cervix in case of much inflammation before applying the yeast mixture in order to ensure good results. All but 14 per cent. of his patients in this class had the cervix inflammation subside; in nearly half of the cases of failure the inflammation was kept up by some lesion in the adnexa.

### Münchener medizinische Wochenschrift

*January 11, LVII, No. 2, pp. 57-112*

95 *Acute Poliomyelitis in Monkeys, and the Nature of Its Causal Agent. (Ueber experimentell erzeugte akute Poliomyelitis bei Affen und die Natur ihres Erregers.) S. Flexner and P. A. Lewis (New York).
96 Specific Changes in Drop-Forming Property: Stalagmometry. (Die spezifische Meiostagminreaktion. Eine physikalisch-chemische Immunitätsreaktion.) M. Ascoli.
97 Formation of Fat Acids in Infants' Intestines. (Das Verhalten der Fettsäurebildung im Darminhalt des Säuglings.) A. F. Hecht.
98 Behavior of Liver in Chronic Pericarditis. O. Hess.
99 Phagocytesis and the Arneth Blood Formulas. (Phagozytose und Arnethsches Blutbild.) W. Busse.
100 *Liability to Genital Prolapse in Elderly Primiparæ. (Der Genitalprolaps eine Folge der späten Erstgeburt.) M. Fetzer.
101 *Contusion of the Pancreas. (Ueber subkutane Pankreasverletzungen.) N. Guleke.
102 Seroreaction in Syphilis as Tested at Strasburg Clinic. Hügel and Ruete.
103 *Hygiene of the Mouth and Pulmonary Tuberculosis. A. Moeller.
104 Brandy Intoxication and Test for Fusel Oil in Liquors. (Branntweinvergiftungen zugleich ein Verfahren zum qualitativen Nachweis von Amylalkohol [Fuselöl] in spirituösen Lösungen.) H. Holländer.
105 Bolus Alba in Therapeutics. (Zur Bolusbehandlung.) M. Nassauer.

95. This article appeared in THE JOURNAL, Dec. 18, 1909, p. 2095.

100. **Genital Prolapse as a Consequence of Advanced Age at First Labor.**—Fetzer gives a number of diagrams comparing the age at the first childbirth in connection with development of genital prolapse among the patients at the Tübingen gynecologic clinic. Women who bear their first child before the age of 20 very seldom have genital prolapse later; the tendency to it increases with every year of the woman's age at the time of her first pregnancy. The number of labors, Fetzer says, does not seem to influence the tendency to genital prolapse, only the age at the first pregnancy.

101. **Contusion of the Pancreas.**—Guleke reports 4 cases, one with autopsy. Operative intervention was necessary in all but the last case, and he reviews the indications for it. Three of the patients recovered; a tumor developed in the epigastrium in 2 cases, evidently an effusion in the lesser sac of the peritoneum.

103. **Care of the Mouth and Tuberculosis.**—Moeller urges extra care of the teeth and mouth by the tuberculous, not only to clear out nesting-places for bacilli, but also to insure proper mastication, which is especially necessary for them to ensure 'getting the greatest benefit from the nourishment taken.

### Virchows Archiv, Berlin

*January, CXCIX, No. 1, pp. 1-192*

106 Research on Stasis in Pancreas of Living Rabbits. (Beiträge zur Lehre von der Stase nach Versuchen am Pankreas des lebenden Kaninchens.) M. Natus.
107 Cancer in Dogs. (Ueber den vollwertigen Organbau eines Talgdrüsenadenoms und eines Analdrüsenkarzinoms beim Hund.) A. Jaeger. (Zur Metaplasiefrage und den organoiden Entwicklungsvorgängen der Tumorengenese, dargelegt an den Mammablastomen des Hundes.) Id.
108 Acquired Syphilis of the Small intestine. (Ueber erworbene Dünndarm-Syphilis.) E. Fraenkel.
109 Endocardium Tumors. (Ueber sogenannte Endokardtumoren und ihre Entstehung.) H. Stahr.

### Wiener klinische Wochenschrift, Vienna

*January 13, XXIII, No. 2, pp. 41-82*

110 Simultaneous Normal and Extrauterine Pregnancy. (Zur Kenntnis der gleichzeitig extra- und intrauterinen Gravidität.) Ehrendorfer.
111 Unilateral Exclusion of the Pylorus. (Zur unilateralen Pylorusausschaltung.) A. v. Eiselsberg.
112 Plastic Operation on the Cheek with Flap from Shoulder. (Wangenplastik mit am Sternalrand gestieltem, gegen die Schulter verlaufendem Brusthautlappen.) V. v. Hacker.
113 *Gastroenterostomy or Resection for Gastric Ulcer? J. Hochenegg.
114 *Three Cases of Splenectomy. W. Otto.
115 *Calculus Anuria. (Bemerkungen zu einem Falle von kalkulöser Anurie.) A. Fraenkel.

113. **Gastroenterostomy or Resection for Gastric Ulcer?**—Hochenegg remarks that gastroenterostomy for ulcer has become the most frequent operation he has to perform now, with the exception of herniotomies. The results are uniformly good with the routine technic employed. In his private practice all the patients were freed at one stroke from their ulcer disturbances and have been in good health for years, including 5 cases in which the ulcer was not in the pylorus region. On the other hand, in the one case in which he gave the preference to resection—a callous ulcer with adhesions to the pancreas—a small abscess was opened, and fatal peritonitis followed. Gastroenterostomy protects better than resection, he thinks, against recurring ulceration, while it is a far less serious operation than resection. Suspicion of cancer, of course, justifies the latter, but he does not approve of Payr's suggestion that a family history of cancer should turn the scale in favor of resection when gastroenterostomy otherwise seems indicated.

114. **Splenectomy.**—In one of the 3 cases reported by Otto the young woman married after splenectomy in 1887, and has borne 9 children since, and is now robust and without a trace of anemia. The spleen was removed on account of being six times the normal size; the patient was extremely anemic and had had three febrile attacks. In another case the patient presented the symptoms of far-advanced splenomegaly with cirrhosis of the liver, the syndrome to which Banti called attention in 1894. The patient succumbed soon after the splenectomy. In a fourth, recent case, a hemophiliac taint warns against surgical intervention, and he is trying to cure the patient with arsenic. A fifth patient with the same disease is soon to be splenectomized.

115. **Reflex Anuria from Lithiasis.**—Fraenkel reports the case of a previously healthy man of 39 awakened at night by pain in the left lower abdomen. He voided urine as usual the next morning, but after this 8 days passed with complete anuria, no desires to urinate, no pain and not much disturbance in general health. The bladder was empty, the abdomen nowhere tender, the secretion of urine having evidently ceased for the time being. An incision over the left kidney revealed this organ much enlarged, suggesting that the other kidney had long been totally functionless, which proved to be the case. The trouble was evidently a reflex anuria from the irritation of calculi found in the hilus; others were expelled later from the ureter. The capsule was enormously distended, but when opened no urine was found in the hilus. Normal conditions in the circulation and epithelium were gradually restored, and the secretion of urine proceeded normally thereafter. An interesting feature of the case was the lack of general disturbances during the 8 days of total anuria, suggesting that the retention of waste matters is not after all the real source of the disturbances observed during uremia. In this case measures to promote diaphoresis and to keep the bowels open during the week of anuria warded off evil consequences from the retention. The danger is when the kidney tissue becomes seriously impaired by the factors primarily responsible for the anuria—this injures the secretory apparatus beyond repair, and operative intervention should never be delayed until this danger stage is reached.

### Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

*LXV, No. 3, pp. 569-786. Last indexed Jan. 15, p. 247*

116 *Stretching of Perineum During Delivery. (Untersuchungen über den Modus der Dammdehnung in der Geburt.) H. Küster.
117 *Oleic Acid Probably Not Responsible for Eclampsia Syndrome. (Ueber Oelsäurewirkungen als Ursache der Eclampsia gravidarum) O. Polano

118 A Polypous Cystoma on Posterior Surface of Uterus and Other Rare Findings in Internal Genitals. M. Bolaffio.
119 Male Pseudohermaphrodite. A. Heyn.
120 Axial Torsion of Uterus from Myoma in Ligament. (Ungewöhnliche Entstehung einer Hämatocervix.) R. T. Jaschke.

116. **Stretching of the Perineum During Delivery.**—Küster makes a cross of seven indelible dots on the perineum of lying-in patients to study the mode of distention of the parts during delivery, as the dots separate during the stretching. The fold of skin and vaginal tissue pushed before it by the head extends for 3 or 4 cm. beyond the musculature beneath so that an incision can be made in the middle line to this depth, in case the perineum does not yield, without fear of cutting into the muscles below. The findings with the dots show that the perineum does not stretch to such an extent as stated in the text-books. An incision in the median line to a depth of 1.5 or 2 cm. is generally sufficient, as this permits a yielding of 3 or 4 cm. According as the dots show that the stretching is mostly transverse or axial, the incision can be made to correspond. In some cases the vaginal wall is pushed along, so that as the parts relax after delivery it is found that the incision, 2 cm. long, is exclusively in vaginal tissue, the frenulum and skin of the perineum being intact. The dots aid in suturing the wound or laceration afterward, allowing more accurate coaptation. He makes a dot at the frenulum, at the point of junction of the mucosa of anus and rectum, at a point midway between these 2 dots, thus in the center of the perineum, and 2 other dots, each 1 cm. to right or left from the central dot, with 2 others 1 cm. beyond, this row being at right angles to the median row.

117. **Oleic Acid Not Responsible for Eclampsia.**—Polano's research has demonstrated that oleic acid is found in normal as well as in eclamptic placentas and not in any larger proportion in the latter.

### Zeitschrift für klinische Medizin, Berlin

*LXIX, Nos. 3-4, pp. 205-392. Last indexed Jan. 29, p. 421*

121 *Early Physical Diagnosis of Pulmonary Tuberculosis. (Physikalische Frühdiagnose der Lungenschwindsucht.) A. Goldscheider.
122 Influence of Position of Heart on the Electrocardiogram. (Einfluss der Herzlage auf die Form des Elektrokardiogramms.) H. Grau.
123 *Clinical and Pathogenic Research on Levulosuria in Diabetes Mellitus. H. Koenigsfeld.
124 Research on Metabolism and Stools in Chronic Pancreatitis. R. Ehrmann.
125 *Hypoglycemia in Addison's Disease and in Dogs After Removal of Suprarenals. (Hypoglykämie bei Morbus Addisonii sowie bei nebennierenlosen Hunden.) O. Porges.
126 Primary Carcinoma in Hepatic Duct and at Junction of the Three Large Bile Ducts. D. G. Zesas.
127 *Research on Exophthalmic Goiter. (Zur Lehre vom Morbus Basedowii.) R. Hoffmann.

121. **Physical Diagnosis of Incipient Pulmonary Tuberculosis.**—Goldscheider discusses percussion in general, especially with his technic of extremely delicate percussion, and interpretation of the findings, comparing them with Roentgen findings and the later course of the cases. Thirty-two pages are devoted to the tabulated details of 88 cases, accompanied by a number of plates with pictorial comparison of the findings from percussion and screen examination. His aim is to demonstrate beyond question the advantages of his method of delicate percussion which, he insists, reveals apical lesions that escape recognition by any other means. Especially instructive is his comparison of the findings with delicate percussion with those of ordinary finger-finger percussion. In only one of the total number were the findings contradictory, and this case is still a mystery. In 20 cases skiascopy indicated a right lesion, in 63 bilateral lesions, while his delicate percussion indicated a right lesion in 15 and bilateral in 65, but ordinary percussion revealed bilateral lesions in only one of the cases. Auscultation findings differentiate active processes from residual changes. After first percussing as usual, he reduces the stroke to the lightest possible, comparing symmetrical points, generally commencing at the third intercostal space and working upward, or in the back near the spine at the fourth or fifth dorsal vertebra, gradually increasing the force of percussion. The room, of course, must be absolutely quiet. This delicate percussion will reveal minimal dulness, the signs of which may vanish if the force of the stroke is increased. The monograph fills nearly 80 pages and is the outcome of years of special study.

123. **Levulosuria with Diabetes.**—Koenigsfeld warns that levulosuria may be the result solely of excessive alkalinity of the urine after ingestion of unusual amounts of alkaline substances, the dextrose in the urine then becoming converted into levulose. In this "urinogenous levulosuria" there is no reduction of the power of the organism to assimilate levulose. Levulosuria may also be observed, with reduced gastric acidity and increased intestinal alkalinity. Ingestion of alkaline substances enhances this tendency to levulosuria, especially courses of alkaline mineral waters. When the liver cells are hampered in their function of transforming levulose into glycogen the capacity for assimilating levulose is correspondingly reduced. This sugar intoxication of the liver cells may be observed in chronic mild diabetes—the liver cells having long felt the effect of a weak sugar solution—and with recent severe diabetes, the liver cells feeling the effect of a strong solution of sugar. The practical points emphasized are that the polarization method is not reliable for quantitative determination of the sugars in the urine when the latter is alkaline; also that during a course of mineral waters the amount of levulose should be determined beforehand and quantitative fermentation be accepted as the more reliable test. Tests for the sugars in the urine vary in their results when the patient is or is not taking an alkaline mineral water. This explains why patients seem to eliminate less sugar during a course of mineral waters but return to the former proportions after finishing the course. Besides calling attention to the inverting of sugar in alkaline solutions, Koenigsfeld reviews the literature on the subject of levulosuria, citing 103 articles.

125. **Abnormally Small Proportion of Sugar in the Blood in Pancreatic Disease.**—Porges declares that the deficiency of sugar in the blood in Addison's disease and in dogs after removal of the suprarenals must be regarded as an important factor in the syndrome and a significant symptom. It is a temptation to regard this deficiency of sugar in the blood as the explanation of the muscular weakness, but his few therapeutic experiments with administration of sugar did not give positive results in ergograph tests. Intravenous injection of sugar in dogs after removal of the suprarenals seemed to render them more lively, but this impression is scarcely enough to base scientific conclusions on. At the same time, the research reported seems to demonstrate some connection between the proportion of sugar in the blood and the functioning of the suprarenals. It is possible, he thinks, that Addison's disease may be due not only to injury of the suprarenal tissue itself but also to lesions of the nervous apparatus governing its functioning.

127. **Treatment of Exophthalmic Goiter.**—Hoffmann's article is preliminary to another in which he is to report the influencing of exophthalmic goiter in certain cases by cauterization of the nose. He here discusses the etiology of the disease and especially its origin in and outside of the thyroid. It may be of central origin from permanent excitation or depression of the vasomotor center; in this case the disease may be cured by a sudden shock as from cauterization of the nose, hypnosis or autosuggestion, but it fails to respond favorably to surgical interference as the central cause still persists and continues its injurious action on the part of the thyroid still left. Possibly in these cases the goiter is only coordinated with the other symptoms of the disease, although the morbid thyroid secretion may secondarily aggravate the symptoms. The essential cause may be in the thyroid itself, in functional disturbances in the other glands with an internal secretion or in the central nervous system. The new data constantly being learned in regard to the correlation between the glands with an internal secretion are opening a wondrous field for research and practical therapeutics by the concerted work of physiologists, pathologists and general practitioners. He expatiates on the analogy between the thyroid and the suprarenals, and their antagonistic action, asserting that exophthalmic goiter is evidently the result of excessive thyroid functioning plus insufficient functioning of the suprarenals, while myxedema is just the reverse—thyroid insufficiency plus excessive suprarenal functioning. Myxedema is thus an epinephrin intoxication. His experiments on the frog eye

confirmed this assumption, the serum of thyroidectomized sheep and of myxedema patients dilating the pupil while normal serum shows no such influence. He suggests that trial of a suprarenal extract is justified in treatment of exophthalmic goiter. The measures liable to prove useful, corresponding to the special origin of the trouble, are resection of the thyroid, ligation of the artery, attempts to neutralize the thyroid secretion by the antagonistic suprarenal extract, and means to influence the vasomotor center by some sudden shock, possibly by cauterization of the nose. Hoffmann is assistant at Neumayer's clinic at Munich for nose and throat diseases, and he states that before attempting an operation in exophthalmic goiter, a tentative course of thyroid treatment should be instituted. If well tolerated or if conditions improve under it, he advises postponing the operative intervention.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*January 6, XXXI, No. 3, pp. 25-32*

128 Lymphangitis of the Scrotum in New-Born Infants. P. Lilla.

*January 13, No. 6, pp. 57-64*

129 Paratyphoid Infection. A. Connio.

### Policlinico, Rome

*January 16, XVII, No. 3, pp. 67-98*

130 *Quinin Prophylaxis of Malaria. (La bonifica umana nella lotta antimalarica.) U. Gabbi.

130. **Quinin Prophylaxis of Malaria.**—Gabbi compares the number of cases of malaria last year with those in previous years in certain localities in which malaria is endemic and in which irrigating canals, ponds, etc., render the extermination of the anopheles practically impossible, and where systematic quinin treatment of the malarial inhabitants and preventive quinin administration have resulted in a marked reduction in the number of cases in these worst hotbeds of malaria with no other prophylaxis than the quinin. He remarks that it is a difficult matter to convince the peasants of the advantages of taking quinin when they are not sick, but experience is repeatedly demonstrating that the quinin prophylaxis must be kept up like mercurial treatment of syphilis.

### Hospitalstidende, Copenhagen

*November 24, LII. No. 47, pp. 1513-1552*

131 Improved Technic for Detection of Tubercle Bacilli in Sputum and Urine. (En ny Metode til Paavisning af TB. i Sputum og Urinen.) P. Bogason.

*December 1, No. 48, pp. 1553-1592*

132 *Simplified Technic for Differential Blood Count. (En ny Leukocyttællingsteknik.) V. Ellermann and A. Erlandsen.

133 Congenital Dislocation of the Knee in Twins. (Luxatio congenitalis genus hos et Tvillingpar.) F. Bentzen. Commenced in No. 47.

*December 8, No. 49, pp. 1593-1624*

134 Unexpected Frequency of Positive Wassermann Reaction in Cardiac and Vascular Disease. (Wassermann-Reaktionens Betydning ved Hjerte- og Karsygdomme.) A. Oigaard.

*December 15, No. 50, pp. 1625-1656*

135 Atrophy of Optic Nerve in Tabes Due More to Degeneration of the Nerve Tracts than to That of the Ganglion Cells. (Skyldes Opticusatrofien ved Tabes en Lidelse af Ganglieceller eller af Nervetraade?) H. Rönne.

136 Operative Treatment of Mammary Cancer. H. Svenné. Commenced in No. 49.

*December 29, No. 52, pp. 1689-1720*

137 Compensating Emphysema and the Lessons to be Learned from It for Surgery of the Lungs. (Teorien om det kompensatoriske Lungeemfysem og dets Betydning som Arbejdsgrundlag i Lungekirurgien.) H. Møllgaard. Commenced in No. 51.

138 Diverticula in the Bladder. (Om Blæredivertikler.) A. Lendorf.

132. **Improved Technic for Blood Count.**—According to the authors' technic the blood is transferred to a small vial containing a glass bead and a fluid to dilute the blood, dissolve the reds, and fix the whites, all of which is accomplished with a mixture of 45 parts one-tenth normal hydrochloric acid, 45 parts 0.9 per cent. sodium chlorid and 10 parts formalin. A set of a dozen vials in a stand permits a number of simultaneous examinations. A circle is marked on an object glass and the blood specimen is placed in this circle and stained, dry, with a mixture of equal parts of a 1 per cent. aqueous solution of methylene blue and of a 0.2 per cent. solution of sodium hydroxid. As dry specimens can be used and as the appliances are simple and inexpensive, the writers think that this technic is destined to prove of material service.

### Nordiskt Medicinskt Arkiv, Stockholm

*XLI, Surgery, No. 4. Last indexed Aug. 21, p. 663*

139 *[illegible] Kidney of Incontinence from Super- [illegible] ulva. C. D. Josephson.

140 [illegible] Tumors in Female Genitals. (Im [illegible] primär entstandene hypernephroide [illegible] vin.

141 [illegible] r Intracerebral Traumatic Hemorrhage. E. Lindstom.

*XLII, Internal Medicine, No. 2. Last indexed Dec. 11, p. 2044*

142 *Colon Bacillus Responsible for Formation of Uric Acid. [illegible] rhalten der Harnsäure bei [illegible] so wie über die Entstehung [illegible] Commenced in No. 3.

143 Pr [illegible] of Cortical and Subcortical Origin. G. Soderbergh.

139. **Treatment of Incontinence from Supernumerary Ureter.**—Josephson was consulted in regard to a little girl with incontinence of urine explained by a supernumerary ureter opening into the vulva below the normal urethra. He advised the parents to wait until the girl had grown larger and then to have the condition remedied by an operation. This was done when the girl was 18 years old. Injection of a stain into the kidneys through the normal ureters did not stain the urine from the abnormal ureter, showing that it had a separate pelvis. A supernumerary ureter has been known to cross to the bladder from the other side, but crossing has never been observed with one opening into the vulva, so he did not fear this possible contingency. A considerable amount of fluid injected into the right kidney caused pain exclusively in this region, which he assumed to be evidence that there were two separate kidneys. The part of the kidney containing the supernumerary hilus and ureter was found divided from the main portion by a deep groove and was readily resected. In conclusion he reviews the various operations that have been done for this condition, and criticizes the technic used in some as he thinks his method would have given better results in some of the cases on record.

142. **Colon Bacillus and Uric Acid.**—Trautner has continued his research in this line, examining 88 children, 39 infants and large numbers of older children, besides 32 typhoid patients, with 327 control examinations, the latter including 50 patients with scarlet fever, 28 with tuberculosis, 130 with other diseases, 110 healthy soldiers and 9 persons with the uric acid diathesis. No uric acid was found in healthy infants, and the colon bacillus was rarely present in their stools. When large amounts of colon bacilli were found in the infants' stools, considerable amounts of uric acid appeared in the urine. Rabbits with no uric acid in the urine soon showed a considerable amount after being fed with colon bacilli. Typhoid bacilli seem to kill colon bacilli, this action being marked in the test-tube with a peptone culture medium, in the course of a few days. During typhoid, the proportion of uric acid in the urine progressively declines as the disease runs its course, so that the amount of uric acid is much less in advanced typhoid than in normal persons and in those with other maladies and in the same person before the typhoid. These facts, he says, seem to confirm his assertion that the colon bacillus is responsible for the production of uric acid.

### Upsala Läkareförenings Förhandlingar, Upsala

*XV, Nos. 1-2. Last indexed Dec. 11, p. 2046*

144 The Internal Secretions and the Clinical Importance of Disturbances in Them. (Om den inre sekretionen och den kliniska betydelsen af des rubbningar.) K. Petren.

145 *Kidney and Bladder Surgery. (Sammanställning af fall från urinvägarnas kirurgiska sjukdomar.) [illegible]

146 *Applied Social Hygiene in Campaign [illegible] Sweden. (Det socialhygieniska [illegible] socken.) G. Neander.

145. **Surgery of the Urinary Apparatus.**—Among the 87 cases reported by Ekehorn were 18 in which nephropexy was required, 5 cases of hydronephrosis, 7 of pyonephrosis, 10 of tumors in the kidneys, and 4 in the bladder, with 28 cases of bladder stone and several of renal lithiasis. He operated on account of hematuria in 9 cases. Among the points brought out from this material is the frequency of pyonephrosis in one kidney accompanying stones in the other. He encountered this combination in 5 cases. The importance of diagnosing and curing hydronephrosis to ward off more serious complications later is also emphasized. A history of symptoms suggesting old hydronephrosis is often found in the more severe forms of kidney disease. One patient, a woman, in this cate-

gory, required nephrotomy and nephrectomy later and a series of operations on the remaining kidney in which stones kept forming. She suffered much unless a tube was retained continuously in the fistula into the kidney. The lower end of the tube was finally implanted in the bladder to serve as an artificial ureter. It answered the purpose perfectly but the patient complained of pain from it, ceasing when the tube was withdrawn from the bladder. She now wears a urinal and is content with her kidney fistula, and is otherwise in good health. This long martyrdom might have been prevented, he believes, if the old hydronephrosis had been detected and cured years before. Among the 10 cases of kidney tumors were some in which blood-stained urine had attracted attention 6 years or several months before, but had not recurred; in others there had been hematuria constantly for from 2 to 6 months. One patient had noticed the tumor 4 years before, but in this and in another case the disturbances had been ascribed to the digestive apparatus. The tumor was readily palpable in all but proved inoperable in half the patients.

146. **Practical Measures for Social Hygiene in Campaign Against Tuberculosis in Sweden.**—Neander reports more fully the workings and details of the results accomplished in the model settlement, *Hälsan*, which was described in The Journal, Dec. 7, 1907, page 1930. It is an experiment to provide accommodations for the tuberculous who are unable to secure hygienic surroundings at home, while at the same time it supplies nourishing food for others who come merely to take fresh-air treatment, attend school, etc. Every family in the province has been examined and an accompanying chart shows the distribution of the cases of tuberculosis and the measures adopted to prevent the spread of the disease and to cure or relieve the sick. Neander calls it a "social hygiene experiment," but the results realized seem to advance it beyond the rank of an experiment. It combines the home and the sanatorium, food, recreation, dispensary and school, and takes the whole province under its wing.

## Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

A Quiz Book of Nursing for Teachers and Students. By Amy E. Pope, Superintendent Insular School of Nursing, San Juan, Porto Rico, and Thirza A. Pope, Supervisor of Visiting Nurses of the New York A. I. C. P. With Chapters on Visiting Nursing, by Margaret A. Bewlwy, R.N., Instructor in Visiting and District Nursing in the Presbyterian Hospital, New York. Hospital Planning, Construction and Equipment, by Bertrand E. Taylor, A.A.I.A., and Hospital Bookkeeping and Statistics, by Frederic B. Morlok, Chief Clerk in Presbyterian Hospital, New York. Cloth. Pp. 469. Price, $1.75. New York: G. P. Putnam's Sons, 1909.

The After-Treatment of Operations. A Manual for Practitioners and House Surgeons. By P. Lockhart [illegible] Senior Assistant Surgeon, St. Mark's Hospit[illegible] other Diseases of the Rectum, and to the Q[illegible] Children, London. Third Edition. Cloth. Pp. [illegible] trations. Price, $2.25 net. New York: William [illegible]

The Stomach, Intestines and Pancreas. The Medico-Chirurgical Series No. 2. By W. C. Bosanquet, M.A., M.D., Assistant Physician to Charing Cross Hospital and to Brompton Hospital, and H. S. Clogg, M.S., F.R.C.S., Assistant to Surgeon Charing Cross Hospital. Cloth. Pp. 665, with 110 illustrations. Price, $4 net. New York: William Wood & Co., 1910.

Transactions of the American Association of Genito-urinary Surgeons. Vol. III: Annual Meeting held at the Homestead, Hot [illegible] May 1 and 2, 1908. Pp. 188, with illustrations. [illegible] ing held at Hotel Montanesca, Mount Pocono, [illegible] and June 1, 1909. Pp. 306, with illustrations. [illegible] he Grafton Press.

Proceedings of the Twenty-seventh Annual Meeting of the Maryland P[illegible] ssociation, *Ocean City*, Maryland. June 22 to 2[illegible] with the *Code of Ethics*, Constitution and By-Laws, List of [illegible] ers and Members, etc. Paper. Pp. 160. [Secretary, E. F. Kelly, 303 W. Pratt Street, Baltimore.]

Bulletin de la Société de Médecine de Rouen. Troisième série. Vol. 22. (*Pour faire suite a l'Union Médicale de la Seine-Inférieure.*) Publié par les soins de M. Dévé, Secretary des Seances. 47e Année, 1908. Paper. Pp. 263. *Rouen*: Au Siège de la Société Hôtel des Sociétés savantes, rue Saint-Lo, 1909.

Demographie und Epidemiologie der Stadt Basel während der letzten drei Jahrhunderte 1601-1900. Von Albrecht Burckhardt, Professor der Hygiene. Programm zur Rektoratsfeier der Universität Basel, 1908. Paper. Pp. 111. Basel: F. Reinhardt, Universitätsbuchdruckerei 1908.

The Harveian Oration on Experimental Psychology and Hypnotism. Delivered before the Royal College of Physicians of London, Oct. 18, 1909. By George H. Savage, M.D., Consulting Physician and late Lecturer on Mental Diseases, Guy's Hospital. Paper. Price, 1 shilling net. Pp. 44. London: Henry Frowde, Oxford University Press, Amen Corner, E. C., 1909.

The Biennial Report of the Board of Managers of the Springfield State Hospital of the State of Maryland, Sykesville, Maryland, from Oct. 1, 1907, to Oct. 1, 1909, to his Excellency, the Governor of Maryland. Paper. Pp. 97, with illustrations.

Industrial and Commercial Education in Relation to Conditions in the City of Chicago. *Report of a Preliminary Survey* by the Committee on Industrial and Commercial Education of the Chicago Association of Commerce. Paper. Pp. 64. 1909.

*Proceedings of the American Society for Psychical Research.* Section "B" of the American Institute for Scientific Research. Paper. Pp. 119. Vol. III, Part 2. Price, $1. New York: American Society for Psychical Research, 1909.

A Text-Book of Medical Treatment (Alphabetically arranged). By William Calwell, M.A., M.D., Physician, Royal Victoria Hospital, Belfast. Cloth. Pp. 630. Price, $4.50. *London: E. Arnold, 41 and* 43 Maddox St., Bond St., W.; New York, Longmans, Green & Co., 1910.

*Die Verfügungsbeschränkungen des Verpfänders besonders in den Papyri*, mit einem Anhang; eine Univeröffentlichte Basler *Papyrusurkunde. Von Ernst Rabel.* Paper. Pp. 116. Leipzig: Verlag von Veit & Comp., 1909.

Jejunal and Gastrojejunal Ulcer Following Gastrojejunostomy. By Herbert J. Paterson, F.R.C.S., Assistant Surgeon to the London Temperance Hospital. Pp. 72. Cloth. London: John Bale, Sons & Danielsson, 1909.

The Dietetic Treatment of Diabetes. By B. D. Basu, Major, I. M. S. (Retired). Cloth. Pp. 52. Second Edition. Price, 1 rupee, 8 annas. Allahabad: Panini Office, Bhuvaneswari Asram. 40 Bahadurganj, 1909.

Le Globulin des Mammifères. Par le docteur M. Aynaud, Préparateur à la Faculté. Paper. Pp. 229, with illustrations. Paris: G. Steinheil, Editeur, 2 Rue *Casimir-Delavigne*, 1910.

Publications of the United States Public Health and Marine-Hospital Service. Paper. Pp. 25. Washington: Government Printing Office, 1910.

## New Patents

Recent patents of interest to physicians:

938125. Hair-growing device. F. G. Daggett and E. G. Slinghart, Cleveland, Ohio.
938128. Neutralizing solutions of salts. B. Diamand, Idaweiche, Oberschlesien, Germany.
927928. Preparation of camphene. O. L. A. Dubosc, Rouen, France.
938374. Production of kvass. A. Eisenberg, St. Petersburg, Russia.
938144. Sprayer. E. Harry, Buffalo, N. Y.
938247. Breathing mask. E. Kuhn, Berlin, Germany.
937825. Vibrating-tension, and operating table. J. Lend, Chicago.
938399. Electrical *exercising apparatus*. W. C. Schaufler, Amsterdam, N. Y.
938440. Ankle-brace. F. J. Sescila, Lorain, Ohio.
938544. Hypodermic syringe. W. Ball, Echuca, Victoria, Australia.
938951. Hypodermic syringe. F. D. Bell, Glen Ridge, N. J.
938967. Catamenial *bandage*. C. B. Cahoon, New York.
938968. [illegible] case for comfortables. A. C. Caldwell, [illegible]
938648. [illegible] e Vilbiss, Toledo, Ohio.
939138. Utilizing dried milk. J. A. Just, Syracuse, N. Y.
939139. *Fibrous desiccated milk. J. A. Just, Syracuse*, N. Y.
939034. Surgical instrument. J. W. Kolb, Fairfax, Okla.
939035. Surgical instrument. J. W. Kolb, Medicine Lodge, Kan.
938597. Syringe *for hypodermic* and intramuscular injections. R. Lombardo, Genoa, Italy.
938496. Ambulance. C. Mestrovich, *Portland*, Ore.
938778. Water purifier. J. W. Morrison, Batavia, N. Y.
938779. Purifying water. J. W. Morrison, Batavia, N. Y.
939075. *Phenol halogen* phthalein compound. W. R. Orndorff, Ithaca, N. Y.
939162. Pasteurizing *apparatus*. A. A. *Pindstofte, Frederiksberg*, near Copenhagen, Denmark.
939097. Preparing a preventive of tuberculosis. J. F. Rosenbach, Göttingen, Germany.
939098. Antiseptic finger moistener. J. A. Sauer, Brooklyn., and G. E. Potter, Newark, N. J.
938517. Beverage siphon. H. J. Schmitt, Jersey City, N. J.
938614. Non-odorous phenol salve and ointment, N. Sulzberger, New York.
938525. Electric mouth-mirror. B. E. Turney, Bridgeport, Conn.
938808. Therapeutic *device*. S. T. Yount, *Chicago*.
939584, 939540, and 939941. Manufacturing benzoate. E. O. Barstow, Midland, Mich.
939943. Catamenial *garment*. A. L. *Brodton*, Mobile, Ala.
939822. Massage and air-compressing machine. J. B. Fey, Columbus, Ohio.
939266. Vaginal syringe. E. H. Keske, Hoboken, N. J.
939520. Syringe or the like. C. P. Leyner, Boston.
939431. Hair tonic. F. W. E. Muller, Chicago.
939742. Treatment of quebracho extract. A. Redlich and J. Wladika, Vienna, *Austria-Hungary*.
940376. Obstetrical device. H. J. Barnes, Gunter, Texas.
940519. Surgical applicator. E. H. Eastman, *Hot Springs*, Ark.
940454. Breast-pump. E. P. Fowler, New York.
940256. Chest-expansion measuring device. C. W. Kennedy, E. W. Carlson, and N. C. Jeffes, *Schenectady*, N. Y.
940604. Vaporizer for disinfectants. C. C. Leathers, Leytonstone, England.
940477. Spraying nozzle. A. E. Preston, Battle Creek, Mich.
940622. Truss. T. H. Stanley, Denver.
940217. Method and apparatus for *determining proportions* in compounds and mixtures. L. Taylor, Swarthmore, Pa.
940097. Disinfecting apparatus. P. J. Walsh, Detroit.
940104. Ambulance. J. P. L. Wilson, Cleveland, Ohio.

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## Original Articles

# KIDNEY AND URETERAL STONE

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CHICAGO

Kidney-stone surgery affords an admirable opportunity for good team work. In my clinic the cystoscopic work and the catheterization of the ureters is in charge of Dr. H. L. Kretschmer and the *x*-ray work is in charge of Dr. H. E. Potter, to whom belongs much of the credit of this contribution. I am thoroughly convinced that in this difficult field of surgery the best results can be obtained only by such a division of labor.

In 1897 I used the *x*-ray for the first time in this country in the successful diagnosis of kidney-stone. Since that time I have operated in more than 70 cases of kidney-stone, using in practically all the *x*-ray to confirm the diagnosis. I desire to present very briefly some of my conclusions gained by this clinical experience.

The etiology of renal calculus is not as yet fully determined. Reasoning from analogy, however, it is most probable that kidney-stones, like gall-stones, are formed as the result of a low-grade mycotic infection. We might go a step further and state that the germ forms producing this infection are probably colon and typhoid.

Renal calculi sometimes run a silent course, giving rise to no symptoms. Large calculi, which have apparently produced little injury to the organ, are sometimes found in the kidney, post-mortem, in cases in which a careful, clinical history fails to show any symptoms referable to the stone. This harmless character is not so common with kidney-stone as with gall-stone. We know that a large majority of gall-stones give rise to no disturbance or such slight disturbance that their presence is not suspected. My impressions are that, although this may also be true in the case of kidney-stone, it is the exception.

### CAUSES OF SYMPTOMS OF KIDNEY-STONES

Kidney-stones cause symptoms especially in two ways: (1) by favoring infection or (2) in a purely mechanical way by obstructing the ureter. Large stones seldom produce symptoms in a mechanical way, but usually by favoring infection. A stone the size of an egg in the pelvis of a kidney, *if not accompanied by infection*, may cause no distress. An accompanying infection, however, can produce more or less constant pain of a dull, aching character; or an acute attack of colic due to obstruction of the ureter with pus and blood or by swelling of its mucosa and obliteration of its caliber.

What is the cause of pain in a renal colic? Is it the passing of a stone through the ureter? I think that I can answer this question now fairly definitely.

1. The cause of a renal colic is a greatly increased intrarenal tension due to a plugging up of the ureter.
2. The passage of a stone through the ureter does not of itself cause any pain at all. I have now had the opportunity of determining these facts in several cases. I shall cite as the best example the following case:

A young woman of 22 or 23 had an attack of kidney colic, due to stone the size of a robin's egg. This was removed successfully, but later this kidney became the seat of tuberculosis and it was removed. Several years later she was brought to the hospital suffering from complete anuria. She was in great pain; had not passed a drop of urine for several days. I at once made a nephrotomy under nitrous oxid anesthesia and drained *her solitary kidney*. The pain was immediately relieved by the drainage. An *x*-ray picture the next day showed a stone in the upper ureter about the size of a coffee-bean. Four or five days later an *x*-ray showed the stone in the lower ureter and ten days later, without any pain or symptoms, she passed the stone per urethram.

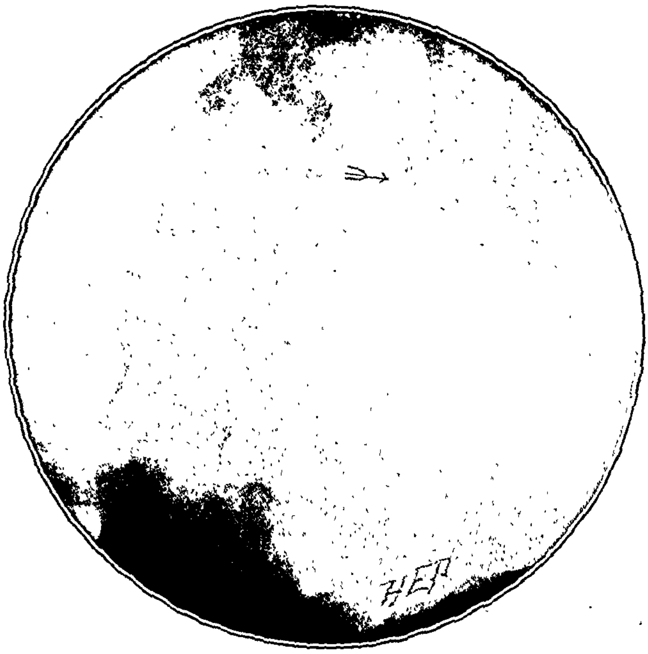

Fig. 1.—From skiagraph showing stone in the right kidney. Skiagraphed during *suspended respiration*.

In all this passage through the ureter after the kidney was drained the stone gave rise to no pain whatever. This and similar cases have taught me that intrarenal tension is the cause of kidney colic and not the passage of the stone through the ureter.

Another interesting fact is taught by this and similar cases, namely this: that the passage of the stone is not due to *vis a tergo*, but to the peristaltic action of the muscle fibers of the ureter seeking to pass the foreign body along. In the majority of my 70 cases the symptoms were sufficiently clear to make a clinical diagnosis of stone fairly easy, i. e., kidney distress, kidney colic, pus and blood in the urine, all of these pointing to a kidney lesion and leading to the use of the *x*-ray and the establishing of a positive diagnosis by this means.

### ATYPICAL CASES

In our series, however, we have had a number of cases in which the symptoms were atypical and the diagnosis difficult. In three or four cases the attacks were thought to be attacks of appendicitis. In 1,500 appendix operations I have in at least four cases found either at the time of the operation or later that the cause of the attacks was kidney or ureteral stones. In several cases the attacks simulated gall-stone attacks and in one case we had the reverse of the experience and found attacks which we regarded as kidney colic attacks were, in fact, gall-stone attacks, and an *x*-ray shadow which we regarded as due to the presence of a stone in the kidney was that of a single gall-stone covered with a thick coating of lime salts.

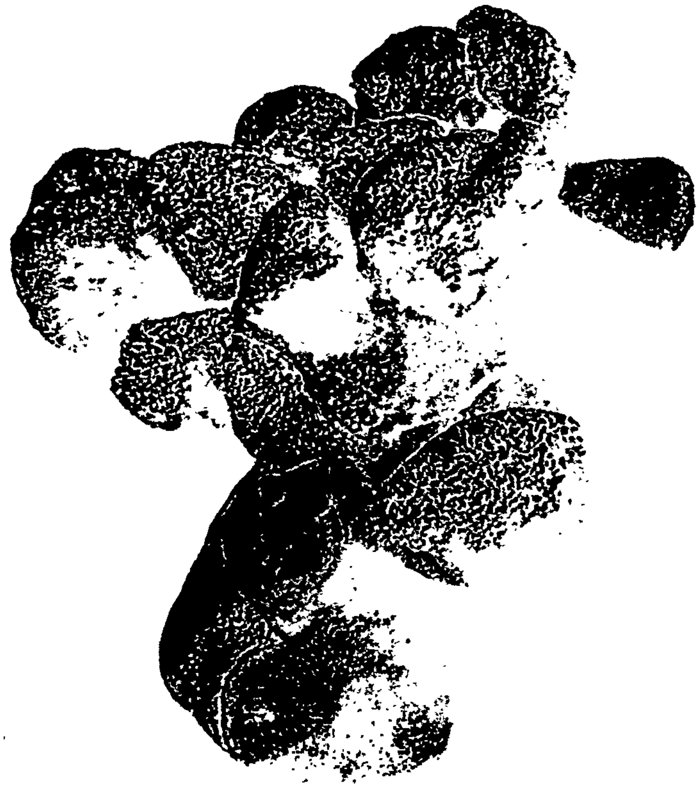

Fig. 2.—Large kidney-stone.

Several of our cases have been sent with the diagnosis of ileus or intestinal attacks, and in at least two cases the patients were treated for years for stomach trouble until the *x*-ray revealed the renal cause of the disease.

As an example of these let me cite the history of two cases:

A. F., the proprietor of a hotel and restaurant, had for years, at intervals, very severe abdominal attacks accompanied with distention, sometimes with vomiting. These lasted from half an hour to two hours and each was relieved by one or more enemas. The patient stated that it would sometimes take one and sometimes four enemas to relieve an attack. An *x*-ray showed stone and the patient has never had any of his so-called intestinal attacks since its removal.

In another case, the patient, a traveling man, operated on for Dr. J. B. Herrick, had what had been treated for seven years as stomach attacks. These were of two kinds: first, a dull pain, which could be relieved by one or two drinks of whisky; and, second, severe attacks of pain accompanied with vomiting and, as the patient stated, relieved by vomiting once or several times, although that he had had a few attacks which persisted for some hours, even after he had vomited profusely and apparently emptied his stomach completely. Dr. Herrick found blood in microscopic amount in the urine and had an *x*-ray taken showing a small stone about the size of an almond. This I removed from the lower pelvis of the kidney.

### DIAGNOSIS

A clinical diagnosis can usually be made in those cases giving a typical history of ureteral colic, combined with the presence of blood, or pus, or perhaps both, in the urine; pain and tenderness on palpation along the course of the ureter may be looked on as additional aids toward making a diagnosis, but they are not always present, and in stout individuals they may be difficult to elicit.

I have now no hesitation in stating that with very few exceptions the *x*-ray can be relied on to show stones as large as a bean. I think that it is fair to say that with good technic the percentage of error is less than 5 per cent.

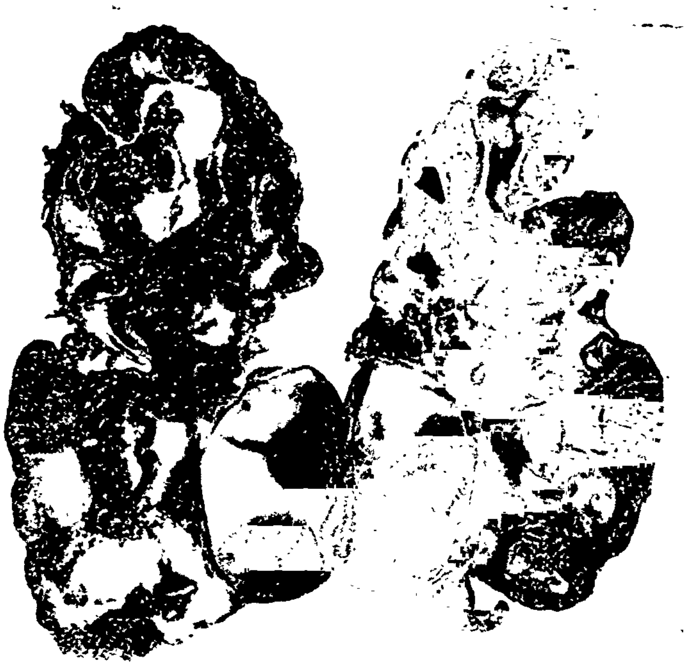

Fig. 3.—Small kidney from which a stone had been removed eight years before, in which practically all the kidney tissue had disappeared. Removed on account of persistent fistulous tract.

Our present confidence in the accuracy of the *x*-ray test is based on both laboratory and practical proof that the less dense of the urinary calculi possess sufficient absorbing power for the rays so that they may be detected in critical skiagraphs. To be sure, the shadows are less pronounced in case of small, flat or soft stones and perhaps difficult to obtain in corpulent individuals, yet an error is more likely to result, in a difficult case, from a faulty technic or interpretation than it is from any inherent lack of virtue in the method itself if carried out properly.

The patient submitted for the *x*-ray test for stone should have his bowels previously cleared of all fecal accumulations by cathartic or enema or both. His abdomen will then be in as transparent a condition as possible and shadows resulting from intermittent collections of gas and feces will be reduced to a minimum. Ordinarily the patient lies on his back on a low, rigid table with his knees drawn up and shoulders elevated so that the lumbar curve of the spine is straightened out and the back lies flat against the plate on the table underneath. For a skiagraph of the whole urinary tract the center of the tube is placed over the umbilicus at a distance of twenty to twenty-four inches from the plate.

It is always advantageous to compress the abdomen by some mechanical device in order to restrict respiratory movements, immobilize the kidney and reduce the thickness of the abdomen by lateral displacement. When the whole scope of the urinary tract is to be included, this compression is best done by a canvas band stretched over the abdomen and tightened down as much as the patient will allow. In skiagraphing limited regions, compression may be made by the cylinder from the compression diaphragm apparatus. Instead of applying the pressure directly to the abdomen a plain, pneumatic cushion of pure rubber may be interposed. More compression with less discomfort may be obtained by the canvas band and cushion than in any other way I have tried. Corpulent patients with abdominal tenderness which prevents compression may sometimes be induced to lie on their stomachs with the pneumatic cushion beneath and be rayed from below. Their own weight will then serve to compress the anterior soft tissues and reduce their thickness appreciably.

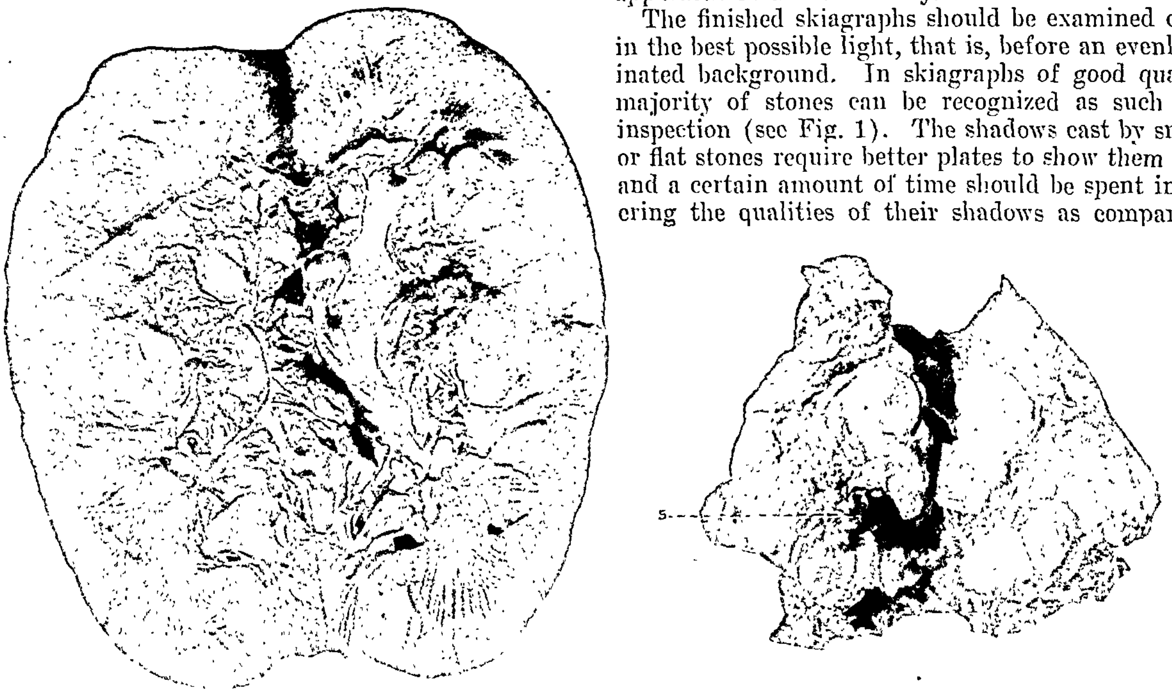

Fig. 4.—On the right, nephrolithiasis followed by suppurative pyelitis and perinephritis causing destruction and cicatrization of the kidney; on the left, compensatory hyperplasia of the opposite kidney.

In some cases of suspected ureteral calculus the $x$-ray may show the presence of a shadow, apparently along the course of the ureter, so that doubt might arise as to whether the shadow is due to a stone within the ureter or whether it is produced by some shadow-producing structure outside of the ureter, such as calcified lymph glands, phleboliths in the pelvic veins, ossifications in the pelvic ligaments, etc. Formerly these pelvic shadows were interpreted as those of ureteral calculi, only to have the error in diagnosis corrected at the time of the operation. To avoid this error in diagnosis and perhaps subjecting the patient to an unnecessary surgical procedure, the ureter on the suspected side (under certain circumstances both ureters) should be catheterized with a skiagraph ureteral catheter, and a second $x$-ray exposure should be made, taking two views of the patient, one in the antero-posterior direction and one with the patient slightly inclined to one side. By this procedure we can absolutely and positively determine whether the suspected shadow is due to a stone in the ureter or not.

The tube is placed in a lead glass shield upheld by a rigid support. Below the tube is always inserted a lead diaphragm of sufficient aperture only to allow the escape of rays which shall just cover the region selected. In this way other portions of the body are shielded from unnecessary exposure and the impure or vagabond rays are absorbed.

The exposure is a matter demanding experience, skill and judgment. The electrical apparatus, the tubes and the plates must be as nearly perfect as possible. The tubes particularly are of importance, since they are the source of the light and are really the weakest part of the apparatus obtainable to-day.

The finished skiagraphs should be examined carefully in the best possible light, that is, before an evenly illuminated background. In skiagraphs of good quality the majority of stones can be recognized as such on first inspection (see Fig. 1). The shadows cast by small soft or flat stones require better plates to show them strongly and a certain amount of time should be spent in considering the qualities of their shadows as compared with other structures seen on the plate. In general the shadow of a calculus is more marked than the mass shadows due to floating gas and liquids in the intestine; it has an abrupt and often irregular border.

The size, location and relative grouping of the shadows may speak very strongly for or against stone. All shadows due to other structures must be recognized and interpreted in the light of previous experience.

In the kidney region there are very seldom any localized deposits or other pathologic conditions capable of casting definite shadows, except calculi. Fortunately for renal diagnosis, on the right side the calculi in the biliary tract are almost uniformly transparent and thus save frequent confusion. In our work only about 3 per cent. of gall-stones cast shadows. The contour of the ribs should be examined in every case; otherwise small stones projected on the rib might be overlooked. In two cases we have had them projected on the transverse process of the second lumbar vertebra in part. Within the shadow of the true pelvis there are seen along the possible position of the ureter of many normal individuals small round *or* oblong bodies variously interpreted as phleboliths, calcified glands or centers of *ossification* in the ligaments of the pelvic floor. The shadows so often seen near the spine of the ischium are centers of ossification in the pelvic ligaments. It is, therefore, necessary in some cases to prove or disprove the calculous nature of these bodies by the combined method of catheterization and skiagraphy.

It is to be remembered that in practice it is too often the tendency to interpret mass shadows in the kidney region and well-formed fecal shadows in the pelvis as soft stones. A recent collection of results covering the work of several men shows an 8 per cent. error due to calling these false shadows stone, with only a 6 per cent. error in failing to show interpretable stones afterward found at operation.

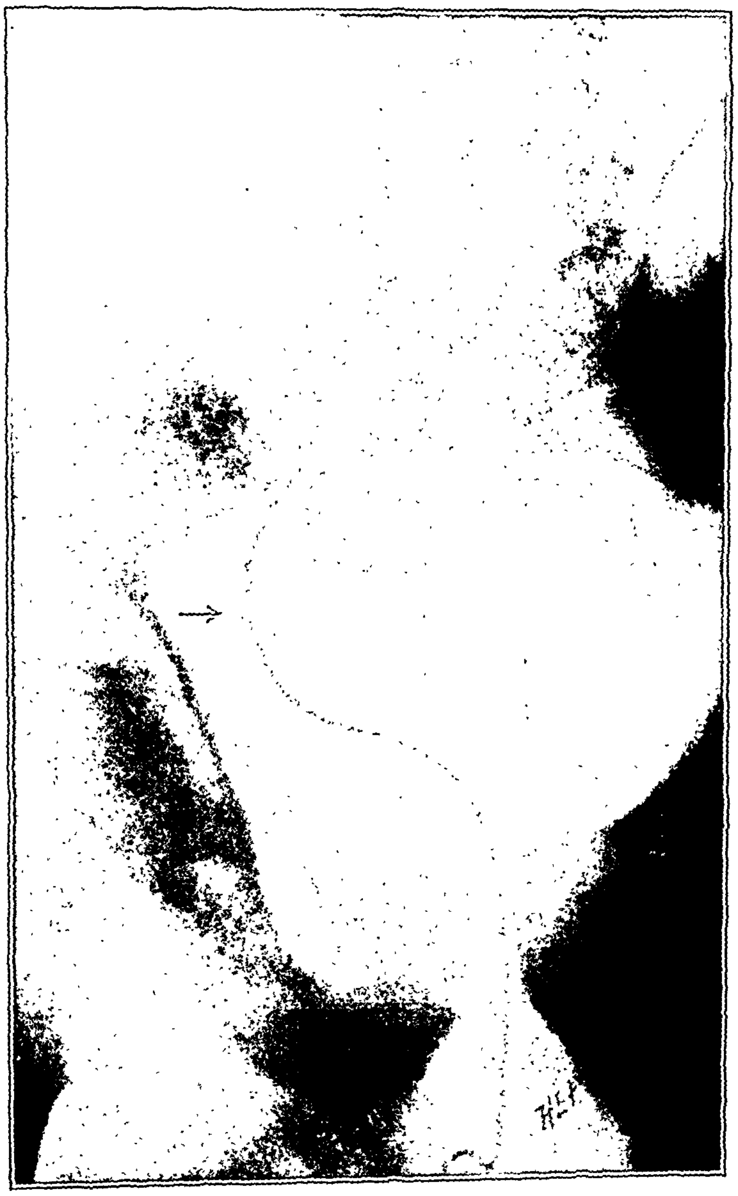

Fig. 5.—Skiagraph showing combined method of catheterization and radiography used to demonstrate that a calcareous body in the region of the ureter lies within it.

Individual workers have had as high as 97 per cent.
...rfect reports as to the presence or absence of stone in
years, ·dreds of cases.
*panied w... ...e* size, shape, number and position of pelvic
*from half an ho*... be an aid in differential diagnosis in some
*or more enemas.* ...nnot be regarded as infallible, and the
*take one and somet*... the shadow corresponds to the position
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*so-called intestinal* ...att.d hence must be a ureteral calculus,
In another case, the ...y with a great amount of reserve, for
...or Dr. J. B. Herrick, ...which lead bougies have been passed into the ureter and then an *x*-ray picture taken show *quite a marked difference in the* course of the ureter.

Pyelography, as devised by Voelcker and Joseph, would hardly come under consideration as an aid in the *diagnosis of* ureteral calculus.

*In taking x*-ray pictures of suspected cases of ureteral calculus, *it* is well to *x*-ray the entire course of the ureter and the bladder, always bearing in mind the possibility of the passage of a ureteral stone down the ureter into the bladder, and this particularly in those patients who give a history of having previously passed stones.

TREATMENT

After a diagnosis is made, what is the treatment? I can now answer this question more positively than ever before. Operation and removal of the stone.

There are but two contraindications to operation: (1) kidney-stone in the very old and in those suffering from organic disease and bad general condition; (2) very small stones in the ureter which we may reasonably hope may be passed. As aids in the passage of the stone which becomes arrested in its course down the ureter may be mentioned the use of local anesthetics, such as sterile solutions of cocain, eucain, or alypin applied to the ureter in front of the stone through the ureteral catheter. Instead of local anesthetics, lubricants, such as sterile olive-oil or almond-oil or petrolatum, may be used. Klemperer has suggested manual movements along the course of the ureter. Jahr has recently devised an intra-ureteral method of dilating the ureter and thereby releasing the stone.

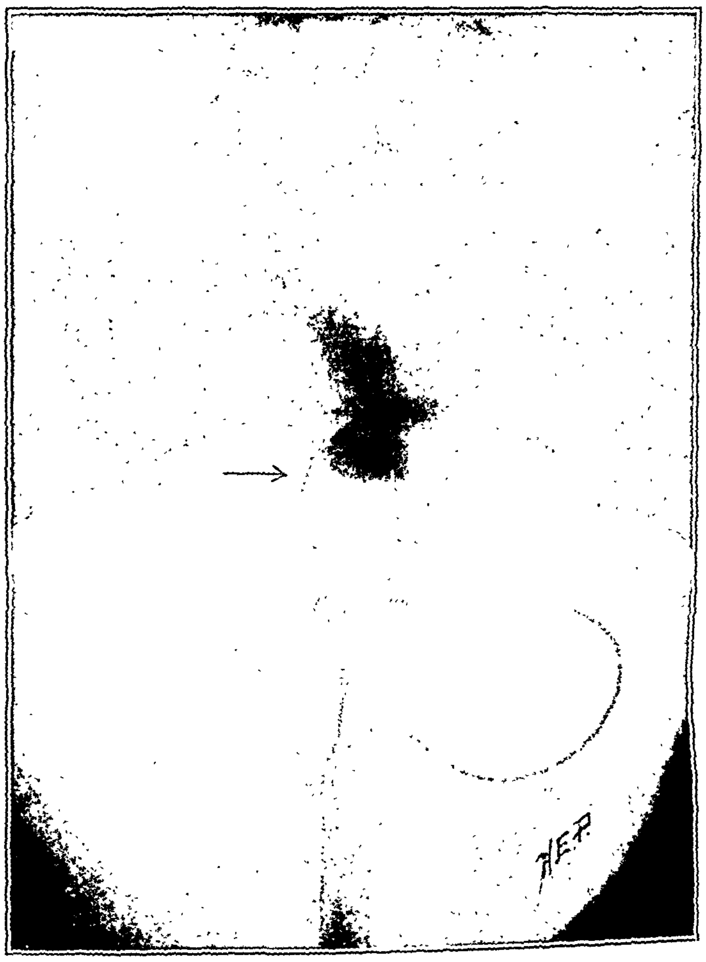

Fig. 6.—Skiagraph showing stone in anomalous kidney with cystoscopy and catheter in place.

As already stated, however, the operative treatment will always remain the choice of treatment in a definite number of cases. The question remains of the operation to be chosen—pyelotomy, nephrolithotomy or nephrectomy?

Pyelotomy, the incision into the pelvis of the kidney and removal of the stone, is the operation of choice in cases of small stones in the pelvis or stone of fair size limited to the pelvis. The incision should be closed with one or two fine catgut sutures and drainage provided—best with cigarette drains to the point of incision in the pelvis. This is an ideal operation, is free from hemorrhage, gives a rapid, smooth recovery with little menace to the kidney or the patient.

Nephrolithotomy is the operation required in multiple stones, in stones in the upper or lower pelvis, in stones in the calyces or branched stones or stones with gross infection. In doing a nephrolithotomy the kidney should be so freed from its fatty capsule that it can be well brought out of the external incision.

The vessels should then be compressed by an assistant with his fingers, never by clamp forceps, as has been sometimes suggested. A cut should be made about a centimeter behind the convex border of the kidney and parallel to it, through the kidney substance down on to the stone or stones or into the pelvis. In some cases of large branched stones the kidney must be completely laid open as in a post-mortem examination.

After the removal of the stone the line of incision is closed with catgut sutures. These, when properly applied, will control the bleeding completely. No drainage should be employed unless in the presence of gross infection with pus; and here, as I shall state later, it is, as a rule, where the conditions warrant, better to remove the kidney. A cigarette drain is carried down to the point of closure of the kidney wound. The one great objection to and danger in nephrolithotomy is hemorrhage. As a rule, this is a matter of no moment and the patient goes on to a good, smooth recovery as in the usual case of a pyelotomy. In some cases, however, no matter how much care has been exercised, hemorrhages will occur. I have had four or five cases of hemorrhage, one a fatal case, in removing a huge collection of stones (Fig. 2) from a kidney which was the only one possessed by the patient. In two other cases hemorrhage was so severe and persistent that, although the external wound had healed completely and the blood came down through the ureter into the bladder, I was compelled to remove the kidney to save the lives of the patients, the hemoglobin having been reduced in one case from 90 to 28 and in the other from 95 to 40. I have had several other cases in which, however, the hemorrhage ceased and the patients went on to a recovery.

Nephrectomy is the third operation which must be considered in operating on patients with renal calculus. We must not only remove the stone or stones in our kidney-stone cases, but we must permanently cure our patients. If we remove a stone from a badly diseased kidney, a suppurating remnant of a kidney (Fig. 3), we leave the patient usually with a suppurating urinary fistula, which is a source of great annoyance to him and may be a serious menace.

In my own work for the last few years my results have improved especially because I have recognized more than formerly the necessity of doing a primary nephrectomy in cases in which the kidney was so badly diseased that it was of no value and if left would give rise to trouble.

A great deal of work has been done to determine by different methods the functional capacity of the kidneys and of the separate kidneys. In spite of rather enthusiastic claims of these various methods—cryoscopy, the phloridzin test, the electric conductivity, the indigo-carmin test, etc.—we are, I believe, coming to regard these with little confidence. I am in my own clinic still resorting, in cases in which a possible nephrectomy is considered, to a cryoscopic examination of the blood and the phloridzin test. I must say, however, that I am controlled not so much by these as by more tangible evidence in my decision for or against a nephrectomy in a given case. This more tangible evidence consists in the following: (1) a cystoscopic examination with catheterizing the ureters to determine the presence of both kidneys; (2) the estimation of the total solids and urine output for several twenty-four-hour periods; and (3) the gross appearance as seen at the operation of the cross-section of the diseased and stone-bearing kidney itself.

If there is kidney sufficiency, as shown by repeated examinations of the total urine output, the surgeon of experience can determine from the gross examination of the kidney on section whether it is doing enough work to make its retention necessary (Fig. 4). If it is evident that it is of little value, then a primary nephrectomy should be chosen, as it will save the patient from a secondary nephrectomy which will be much more difficult and dangerous than the first operation.

The usual oblique kidney cut should be followed in all cases. In many of our cases we have operated under nitrous oxid anesthesia. With a patient in good condition and with an expert anesthetist I prefer ether. With a patient in poor condition but with a good heart, nitrous oxid is to be preferred.

Just a word here in regard to nitrous oxid: I have preached nitrous oxid a good deal and find now that it is being used by some surgeons without a clear conception of its value and its limitations. I have heard recently of several deaths from nitrous oxid gas, and when I have investigated them I have found that they have occurred in cases of individuals with heart trouble so bad as to contraindicate operation with any other anesthetic in the mind of the surgeon. Never use nitrous oxid in a very bad heart case. It is here not nearly so safe as ether. This fact should be more widely known.

### ILLUSTRATIVE CASES

As a good example of the diagnosis and treatment of a ureteral stone I report the following case in which the first *x*-ray picture showed the presence of a shadow that suggested the possibility of a stone in the ureter. After Dr. Kretschmer had passed a ureteral catheter armed with fuse wire, as recommended by Kolischer and Schmidt, a second *x*-ray picture was taken, which showed the presence of the stone within the lumen of the ureter. This diagnosis was verified by the operative removal of the stone.

The patient, a man, aged 52, entered the Presbyterian Hospital on Dec. 5, 1908. The first symptoms of his present trouble began four years previously, at which time he was unable to void urine for a long time, and at other times he would have attacks of frequency of urination. At this time the patient had severe abdominal pain in the left lower quadrant of the abdomen. For the past eleven months the patient had felt a pain or discomfort in the lower left quadrant of the abdomen, and when the pain was severe it would radiate toward the kidney and the bladder. At irregular intervals he would have exacerbations similar to his first attack.

The physical examination was negative. There was no tenderness over the kidneys or the bladder. Some tenderness could be elicited in the left lower quadrant of the abdomen on firm pressure, which was not very severe or localized to any special point. The urine was turbid; specific gravity, 1.020. The sediment showed the presence of red and white blood cells. No casts were found; no tubercle bacilli. Cystoscopic examination showed the internal urethral orifice negative. A slight amount of injection of the vessels of the trigone was present; otherwise the bladder was negative. On account of the pain on the left side, and owing to the fact that the suspicious shadow was found on the left side, it was decided to catheterize the left ureter only. For this purpose a ureteral catheter armed with fuse wire was used and passed into the pelvis of the kidney. A second *x*-ray picture was then taken, which showed the presence of the stone within the lumen of the ureter (Fig. 5). On examining this picture, the entire course of the ureter can be seen and in its course the shadow of the stone, most of which can be seen lying internal to the wire.

No obstruction to the passage of the catheter was experienced at any time during its passage.

In carrying out this work, it is of prime importance to obtain good, clear and distinct shadows on the *x*-ray plate. For this purpose cinnabar catheters and skiagraph bougies have been recommended. The ordinary ureteral catheter, armed with fuse wire, as was used in this case, has always given very satisfactory results, first, on account of the clear, distinct pictures produced; and, second, on account of its pliability, allowing the catheter to follow the course of the ureter without causing any deviation in its course.

This method of diagnosis can also be used in other conditions of the upper urinary tract, besides in the diagnosis of ureteral calculus, as, for example, in cases of renal calculi, in displaced kidneys, or in horse-shoe kidneys, as is illustrated by the following case:

The patient, Mr. T., complained of pain in the lower part of the abdomen a little to the right of the median line and the presence of pus in the urine.

The *x*-ray showed the presence of a shadow the size of a hickory nut compatible with that of a calculus just below the promontory of the sacrum. Stereoscopic views were then made, which showed that the shadow-producing mass was situated in front of the sacrum. On one of the projections the mass was seen about an inch to the right of the median line, which corresponded exactly to the point of tenderness.

On account of the right-sided pain and in view of the fact that one of the projections showed the shadow on the right side, it was decided to catheterize the right ureter with a skiagraph catheter and demonstrate the course of the ureter by *x*-ray. The catheter entered the ureteral orifice easily and advanced without any obstruction about one-third of its usual distance when an obstruction was met and further advance was impossible. After an *x*-ray was made it was seen that the catheter, instead of proceeding across the synchondrosis in its usual path to the kidney, swerved inward to the median line and stopped immediately in front of the stone (Fig. 6).

The value of this method is amply illustrated by this case and the preceding, in neither of which an accurate and positive diagnosis could have been made without it.

The following technic was employed in the above case of ureteral stone: Muscle-splitting incision about five inches long was made in the usual position of the incision for appendectomy. This was stretched widely so that the split in the internal oblique and transversalis extended almost to the middle line exposing the rectus muscle. This incision extended down to, but not through, the peritoneum. The peritoneum was stripped away so as to expose the iliac vessels; the ureter, with the lead wire catheter and the stone in it, was readily felt with the finger. The ureter was brought into view with a couple of blunt hooks, one below and one above the stone. An incision about one centimeter long was made longitudinally over the stone and the stone removed. The small opening in the ureter was sutured with a couple of fine catgut stitches and the external wound closed, leaving a cigarette drain with a small rubber tube in it down to the point of closure in the ureter. A small amount of urine escaped for a few days along the cigarette drain. The cigarette drain was removed on the third day and the wound was completely closed by the tenth day.

### PROGNOSIS

I can best estimate the prognosis in modern kidney-stone work from my own cases. In more than 50 cases of pyelotomy and nephrolithotomy I have had but one death—that in the case already referred to. I have had, however, two cases of death from secondary nephrectomies, both made extremely difficult because of the necessity of digging the kidney remnant out of dense scar tissue due to long-standing perinephritic inflammation.

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# DISTURBANCES OF THE INTERNAL SECRETIONS CLINICALLY CONSIDERED*

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It is the object of this paper to present an abstract of the present knowledge of the physiology of the glands that furnish *internal secretions*; of the clinical conditions that disturbances of these glands are known to cause; of abnormal clinical conditions that disturbances *of these glands are sometimes considered to cause*; of the influence that can be exerted on the secretion of these glands by drugs and preparations of glands; and of the [illegible] physiologic activities that can be caused by the [illegible] and preparations.

The glands to be considered are those that are known *to furnish secretions which do not reach the blood and lymphatics by ducts. They are the pituitary* (hypophysis cerebri), the thyroid, *the parathyroids* (epithelial bodies), the pancreas, the suprarenals (adrenals), the ovaries, and the testicles.

Also should be considered the glands and organs which have been assumed to furnish internal secretions. Such are the parotid, the thymus, the mammary, the liver, the kidneys, and the prostate.

### PITUITARY BODY

While little is positively known of the function of this gland, it has been lately shown that the whole of the gland cannot be removed without causing death within twenty-four hours, but, if a certain part is left, death does not occur. Extracts from the infundibular portion of the gland raise the blood pressure and increase the cardiac activity, but this action is much less than that which occurs when suprarenal is administered. The blood pressure is raised principally by the action of the extract on the walls of the arterioles. Extracts from the hypophysis portion of the pituitary have been shown to cause slowing of the heart and prolongation of the systole.

This gland and the suprarenals seem to be the only glands of the body that furnish vasoconstricting stuff, and it has been claimed that the pituitary regulates the intracranial blood pressure, regulates diuresis, and exerts a tonic action on the sexual organs. Extracts from the infundibular portion have been shown to cause diuresis, whether the blood pressure is increased or not.

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The colloid substance of the gland perhaps represents a secretion.

The pituitary seems to be closely related in its functions to the thyroid gland; when the latter is diseased the hypophysis often becomes hypertrophied, and when the pituitary is diseased the thyroid has been found hypertrophied.

The relation of the pituitary secretion to the growth of the skeleton has not been determined, but the pathologic condition of this gland in acromegaly would seem to demonstrate that it has a function in bone development and bone growth that is of prime importance.

The consensus of opinion is that a diseased condition of the hypophysis cerebri is invariably a pathologic finding in, and, in all probability, a cause of, the disease of acromegaly. Instances of disease of the pituitary in which acromegaly does not occur do not militate against the acceptance of this etiology, as there may be supernumerary glands which furnish secretion compensating for defects in the pituitary, or disease of the pituitary may be so rapid as not to allow the condition of acromegaly to occur. It is quite possible that when autopsies on patients whose deaths have occurred early in acromegaly, have not shown macroscopically any changes in the hypophysis, microscopic examinations would have shown hyperplasia, and one or more instances are on record which have shown this condition to be present.

As has been stated above, the thyroid can supplement, and perhaps does so frequently, the work that the pituitary should accomplish.

It seems probable in every case of gigantism that the pituitary hypersecretes, and that this extra secretion stimulates an enormous bone growth. If this secretion is normal and simply increased in amount, and this extra secretion begins during the period of adolescence, a giant is the result. If, on the other hand, this hypersecretion begins after the full growth of the body has been attained, irregular bone growth and consequent deformity will follow, and a typical acromegaly will develop. It is also probable that in every case of gigantism, if the person lives long enough, signs of abnormal bone growth, acromegaly, will develop. In other words, gigantism is a condition due to hypersecretion of the pituitary, and acromegaly a condition primarily of hypersecretion, later hyposecretion, of the pituitary. This supposition does not seem unique when it is recalled that Graves' thyroid disease (exophthalmic goiter) is a condition of hypersecretion of the thyroid, and that later this same thyroid may so under-secrete as to cause some symptoms of myxedema.

Tumors of the hypophysis cerebri seem to cause a cessation of menstruation.

Disturbance of the secretion of this gland may be the cause of headache and muscular debility; at least this deduction may be made, as it seems to be a fact that the headache in many patients suffering from acromegaly may be removed and the muscular weakness may be lessened by the administration of pituitary extracts.

It has been suggested that pituitary secretion regulates sleep; too much of this secretion causing coma, and too little insomnia.

There is no proof of the ability of any drug to stimulate the secretion of the pituitary, though it is probable that both pituitary substance and thyroid substance may stimulate it. It has not been shown that any drug inhibits the activity of the pituitary.

It has seemed repeatedly demonstrated that prolonged use of pituitary substance causes the amelioration of the headache and an increase in the muscular ability of patients suffering from acromegaly.

As hypophysial preparations raise the blood-pressure and slow the pulse, they have been used in cardiac and circulatory depression in typhoid fever, in pneumonia, and in irregular hearts and vasomotor disturbances. It has not been shown that extracts of this gland are any more efficient in these conditions than are suprarenal extracts. The action is certainly not so intense, but it may be more lasting.

From recent investigations it is possible that this drug may be used as a diuretic.

### THYROID

This gland is the best understood of all the ductless glands, and its functions are so many and so diverse that the story of its physiologic activities seems scarcely believable. Its specific activities may be summed up as follows: A perfect secretion of the thyroid is necessary for the proper bone and mental development of the child, and the proper mental condition of the adult; for the proper relationship of the amount of fat to the rest of the body; for the proper health and functioning of the skin; for the proper health of the teeth, hair, and nails; for the proper menstrual and maternal functions of women; for the proper nitrogenous metabolism of the body; and for the prevention of nitrogen toxemias.

While this gland is present at birth, and functioning throughout childhood, it is most fully developed and active from the age of puberty to the age of forty-five. From that time its secretion is decreased until the gland atrophies in old age.

Besides its internal secretions, the thyroid produces a colloid substance which seems to be a storehouse for some of its activities. It acquires and stores iodin, and iodin is necessary for a part, at least, of the proper functioning of the gland.

Extracts from the thyroid lower blood-pressure and at the same time increase the rapidity of the heart. The polymorphonuclear leucocytes have been shown to be decreased by the feeding of thyroid, and, at times, the lymphocytes to be increased, while the whole number of white cells is diminished. This same condition of the blood is often present in exophthalmic goiter.

Men and animals can live for a time without the thyroid, provided the parathyroids (epithelial bodies) are not removed. Sooner or later, however, disturbances occur which will lead to death unless thyroid extract or secretion is in some manner furnished to the body.

Thyroid tissue has been successfully transplanted info various parts of the body and the thyroid then extirpated, and no symptoms have developed.

Hypersecretion of this gland has been proved to be the cause of Graves' thyroid disease (exophthalmic goiter). It is also true that any one, or more, of the many symptoms of this disease may be present without the other symptoms, and yet one and all be due to a disturbance of the thyroid. These disturbances may be in all degrees of intensity, and are tachycardia, nervous irritabilities, insomnia, loss of weight, more or less profuse perspiration, various digestive disturbances and various uterine disturbances (more especially a tendency to a profuse menstrual flow).

Cretinism and myxedema are positive signs that the thyroid is hyposecreting, and from this lowest degree of under-secretion up to that of slight subnormal secretion occur all the varying symptoms due to a diminution of thyroid activity. The conditions caused by hyposecretion of the thyroid are obesity, adiposis dolorosa, sleepiness, mental apathy, dryness of the skin, chronic eczemas, digestive disturbances, slowing of the heart, increase in the blood-pressure, and amenorrhea or scanty menstruation.

Defective thyroid function in the mother is doubtless the essential factor in the production of cretinism.

As previously stated, it has been recognized that there may be all grades of thyroid secretion, from the excessive secretion which causes Graves' thyroid disease (exophthalmic goiter) to the complete absence of this secretion which causes cretinism and myxedema. Many apparently functional, neurotic, hysterical and mental disturbances, as well as disturbances of nutrition and toxemias due to disturbed nitrogen metabolism, may all be due to malfunction of the thyroid.

The neurotic, alert individual who is many times mentally bright, interesting, and magnetic is so, perhaps, because of an increased thyroid secretion. Excessive suffering from pain, real or imaginary, is probably due to excessive thyroid stimulation. Many unexplained insomnias are probably due to the same cause. So-called functional tachycardias without other symptoms of Graves' disease are possibly due to thyroid disturbance. The various forms of hysteria, some cases of epilepsy, mental depression, and even primary melancholia are all due to disturbed thyroid secretion. The excitability of the premenstrual period is doubtless due to an increased thyroid secretion. The uncomfortable symptoms of the menopause, hot flashes, sweatings, restlessness, and mental disquietudes are all due to an increased thyroid secretion, at a time when it is not needed for the menstrual function. If the thyroid decreases its secretion synchronously with the cessation of ovulation, the happiest development of the menopause takes place. If it continues to hypersecrete periodically, for a time, after ovulation has ceased, the well-known uncomfortable symptoms of the menopause occur. If, on the other hand, it under-secretes very rapidly after the cessation of ovulation, the patient gains weight, and there may be other symptoms of abnormal under-secretion, such as, even, some myxedematous phenomena.

If the thyroid does not act properly at the menstrual period, or if through its improper action menstruation does not occur, not only may violent headaches and other signs of toxemia appear, but epileptic attacks may develop. The proper administration of thyroid substance or extract will generally cause the menstruation to become regular and normal, will often prevent headache, and, frequently, will prevent epilepsy. Epileptic conditions that develop at the time of the menopause may be cured by the administration of extracts of this gland.

Some asthmatic attacks due to nitrogenous poisoning may be prevented by the administration of thyroid, showing that a thyroid undersecretion is present. The hypertension of arteriosclerosis and senility may be prevented by the administration of thyroid. Gouty manifestations are often made less frequent, and exacerbations may be prevented by the administration of thyroid. Senile eczemas and eczematous conditions in the young child may often be improved by giving thyroid, showing that in these instances an under-secretion is present.

The thyroid gland is stimulated to hypersecrete by alcohol, caffein, arsenic, iodin, thyroid substance, and possibly by strychnin and phosphorus. A thyroid gland that is hypersecreting is quickly stimulated by alcohol and caffein, and sometimes by iodin. Such repeated stimulations in conditions of exophthalmic goiter are dangerous and should not be allowed. The stimulation from iodin, in small doses, and from thyroid substance lasts for a long time, and may awaken a subsecreting gland to more perfect work.

The thyroid gland may be inhibited in its activity by chronic lead poisoning, by the prolonged use of mercury, by the prolonged use of large doses of iodid, by severe infections, and by protracted disease. Its hyperactivity may be diminished by glycerophosphates, possibly by other lime salts, doubtless by morphin and other opiates, occasionally by belladonna, strophanthus, bromids, and by abstinence from meats.

Sexual excitement increases the thyroid secretion, and when there is hyposecretion of the thyroid, sexual desire is lost.

Thyroid extracts when administered by the mouth have the ability to cause all of the activities of the normally secreting gland.

### PARATHYROIDS (EPITHELIAL BODIES)

It is comparatively recently that these glands have been shown to be not only important, but exceedingly active and very necessary for the health of the individual. It has also been proved that many of the supposed symptoms from thyroid extirpation are really due to parathyroid extirpation; that convulsions and tetany are due to extirpation of these glands; that, in man and many animals, removal of all of the parathyroids causes death, which can be prevented by the administration of parathyroid extract.

Whether the secretion from these glands prevents the formation of toxins or neutralizes toxins in the blood, it seems certain that their secretion prevents the irritation of the nervous system by such toxins, or regulates certain normal metabolic processes. It has been suggested that the secretion of the parathyroids may neutralize the toxins of muscular exertion and prevent fatigue.

While it has been stated that parathyroidectomized animals do not have convulsions if they are kept on a milk diet, it has still been asserted that these glands have little to do with nitrogen metabolism.

Recently MacCallum has shown that the parathyroids control calcium metabolism. If they are extirpated, rapid excretion of calcium takes place and a diminished amount of calcium remains in the blood, and hence there occurs an insufficient absorption and assimilation of calcium salts. This experimenter has shown that the symptoms after parathyroidectomy may be stopped by the intravenous injection of a 5 per cent. solution of acetate, or lactate, of calcium. Potassium solutions make the convulsive symptoms worse, while magnesium solutions, though beneficial, cause an undesired anesthetic action on the nervous system.

These glands vary in number (one to four), size and position in the neck. As they are necessary to life, in operations on the thyroid, two at least should be saved the patient, even if they must be transplanted.

Symptoms from hypersecretion of the parathyroid glands have not yet been recognized, though it has been suggested that a hypersecretion may be the cause of muscular weakness, and that a disturbed condition of the secretion may be the cause of paralysis agitans. Insufficient secretion of these glands seems to be the cause of tetany, and perhaps is the cause of other convulsive conditions, such as eclampsia and some forms of epilepsy.

Although the parathyroids have been found apparently normal after death from infantile tetany, this does not disprove the theory that tetany is due to their malfunction. Parathyroid extracts should certainly be tried in tetany, in .003 to .006 gram (1/20 to 1/10 grain) doses. Parathyroid has been occasionally of benefit in paralysis agitans, and may be of value in eclampsia and in other convulsive conditions.

It would seem wise to give women during pregnancy and lactation small doses of calcium, as such treatment should tend to prevent the softening of the mother's bones and the decay of her teeth, which so frequently occurs during this period.

The parathyroids have been found degenerated in primary infantile atrophy, but whether administration of preparations of these glands would be beneficial in such conditions has not been determined.

### PANCREAS

Besides the pancreatic secretion which passes through the pancreatic duct, the pancreas furnishes an internal secretion necessary to the health and life of the individual. The pancreatic duct may be tied and the animal live, but the pancreas cannot be removed without death supervening.

It has been asserted that the internal secretion of the pancreas as well as the secretion through the pancreatic duct is necessary for the proper utilization of foodstuffs. This internal secretion of the pancreas has been positively demonstrated to be necessary for the proper metabolism of carbohydrates, and if this function of the pancreas is interfered with glucose will appear in the urine, and if this function is permanently abolished diabetes mellitus is the consequence. While glycosuria can occur without any apparent disease of the pancreas, and while disease of the pancreas can occur without glycosuria, it seems proved that disturbance of the internal secretion of the pancreas (whether from actual degeneration of the islands of Langerhans, from reflex nervous disturbances, from abnormal liver conditions, or from disturbed suprarenal activity) will surely cause glycosuria. Hence, a consideration of the carbohydrate metabolism from the intake of starch to the normal amount of sugar in the blood, and to the normal function of the muscles from glycogen nutrition, must take into account the internal secretion of the pancreas.

It should be emphasized that disturbances of the interrelations between the ductless glands, whether by disturbed secretions of one or more of them, or by disturbances due to nervous irritations, reflex or direct, may sufficiently disturb the pancreatic internal secretion to cause glycosuria and yet no apparent disease of the pancreas be found on autopsy. Instances of such glycosurias are those that occur from some irritations of the brain, injuries to the fourth ventricle, etc.; the glycosuria that often occurs in acromegaly (disease of the pituitary); the glycosuria that often occurs in thyroid disease; and the glycosuria that has been shown experimentally to occur from too much absorption of suprarenal extracts.

Thyroid secretion has been shown to exert profound influence on the secretion of the pancreas. If thyroid activity is insufficient, hypersecretion of the pancreas occurs. If there is excessive thyroid secretion, as in exophthalmic goiter, an under-secretion of the pancreas occurs.

Disease of the islands of Langerhans in the pancreas always causes diabetes mellitus, unless there is sufficient healthy pancreatic tissue or supernumerary pancreatic tissue to prevent an absence of this secretion.

While the pancreatic juice may be increased by hydrochloric acid and by secretin, and by various drugs such as creosote and salicylic acid, it is not known how the internal secretion of the pancreas may be increased or diminished.

Unfortunately, the feeding of pancreas, or any extract made from pancreatic tissue, does not prevent or cure diabetes.

### SUPRARENALS

These glands are necessary for life, and when they are extirpated death occurs. When they are diseased the patient becomes debilitated and finally dies.

The most interesting activity of these glands is that of their ability to furnish a secretion which enormously raises the blood-pressure, and one of their most important functions is to keep normal the tone of the systemic arteries. It has been experimentally shown that this active substance (epinephrin, suprarenin, or adrenalin) is the strongest vasoconstrictor that we possess, and its activity is exerted principally on the muscular coats of the arteries, although it is also a stimulant to the heart muscle. Too much of it is a respiratory depressant. This substance is probably oxidized in the tissues.

The suprarenal secretion seems not only to give general muscle tone to the system and to act as a muscle stimulant, but it especially stimulates the muscles innervated by the sympathetic system. As above stated, excessive amounts of suprarenal extract thrown into the circulation, especially if absorbed from the peritoneum (by reason of the rapidity of absorption), cause such disturbance of the carbohydrate metabolism, perhaps disturbance of the secretion of the islands of Langerhans, as to produce glycosuria. As might be inferred *a priori*, it has been shown that large amounts of pancreatic juice can inhibit this adrenalin glycosuria.

It has been suggested that the suprarenals have various antitoxic functions, but no such action has been demonstrated.

A proper amount of suprarenal secretion seems necessary to the normal development and health of the red blood corpuscles.

Experimental disturbances of the suprarenals has seemed to cause pigmentations of the skin, and it has been shown that the suprarenals have something to do with the normal pigments of the skin.

Suprarenal pressor substance acts especially on the blood vessels in the kidneys, and can contract the kidneys even in doses too small to be noticed by the general circulation. It is, therefore, quite possible that a hypersecretion of these glands may be an important factor in the etiology of chronic interstitial nephritis.

While it has been found very difficult to transplant suprarenals, grafts have been successfully placed in the kidneys, but whether they will functionate or not is still an undecided question.

Too strong solutions of suprarenal principle should not be used, as even ten minims of a 1 to 1,000 solution injected into the urethra has caused fatal poisoning.

The cortex of the suprarenal has been lately shown (Shäfer) to be probably a separate secreting gland tissue, which may have close relation to the sexual organs and to the pigments of the skin.

Hyperplasia of the cortex of the suprarenals has been shown to occur in puerperal eclampsia and in the nephritis of pregnancy.

When the suprarenal glands are diseased, symptoms develop which in their totality are called Addison's disease. These symptoms are progressive anemia, low blood-pressure, gastrointestinal disturbances, more or less abdominal pain, and a bronzing and pigmentation of the skin and some mucous membranes. The degeneration of these glands which causes Addison's disease is most frequently a tuberculous process.

These glands have been found abnormal in various diseased conditions, and in many instances the vasopressor substance has been found greatly diminished. Acute insufficiency of the suprarenals can occur and cause death. They may become infected with various germs, be congested and be hemorrhagic, and such conditions may cause death. Hyperplasia of the suprarenals has been found to be an almost constant condition in arteriosclerosis and interstitial nephritis.

Arteriosclerosis is a disease of old age, and it is probably always preceded by a period of increased arterial tension. As the thyroid atrophies after fifty, and therefore furnishes a smaller and smaller amount of vasodilator substance, the relation of the vasopressor substance furnished by the suprarenals to the vasodilator substance in the blood is changed. Consequently, although the vasopressor substance may not be actually increased, it is relatively increased in the blood, and the arterial pressure is raised. This is normal old age. If at any time earlier in life the thyroid vasodilator substance should be diminished in amount, or if from any cause the suprarenal vasopressor substance is increased in amount, high blood-pressure and perhaps arteriosclerosis would be the result. Consequently any disease that interferes with the activity of the thyroid gland, or any disease that stimulates the suprarenals, may have as its ultimate consequence arteriosclerosis.

It is also possible that increased activity of the suprarenals may so increase the tension of the vessels of some of the abdominal organs that improper metabolism of nitrogenous foods may occur and gout be the result. In other words, it is possible that the suprarenals may take some part in the unexplained etiology of gout, and, as thyroid disturbances have been shown to be inherited, so may suprarenal disturbances be inherited. So much for hypersecretion of the suprarenals.

It is possible that neurasthenic conditions and conditions of chronic low blood-pressure, without tangible circulatory excuse, may be due to an under-secretion of the suprarenals. Gastrointestinal atrophy may also be due to this same cause.

Surgical shock as seen so many times following abdominal operations is probably due to injuries of the sympathetic system so interfering with suprarenal secretion that the vasopressor substance is not produced or circulated, and often irremediable low blood-pressure and death are the result. Good results in shock from acute infections, and especially in suppurative peritonitis, may be obtained by injecting intravenously 500 c.c. of physiologic saline solution to which has been added three drops of a 1 to 1,000 solution of the pressor principle of suprarenal.

Suprarenal has been used in uterine hemorrhage with success.

The active principle has been used with success in asthma and hay fever. To be effective it must be dissolved on the tongue or sprayed into the nostrils, or used in oily preparations in the nostrils.

To cause any rise in blood-pressure suprarenal extract must be absorbed from mucous membranes, or it must be administered intravenously or intramuscularly.

It is not known that any drug or preparation will stimulate the suprarenals to greater activity, but morphin seems to inhibit them, and the circulatory depression in morphin poisoning may be due to suprarenal inhibition.

Besides the use of suprarenal vasopressor substance as a local astringent and a circulatory stimulant, the administration of suprarenal substance as a whole, by the stomach, has not been shown to have great value. Although a number of instances are on record in which the administration of suprarenal extract has apparently cured Addison's disease, it has generally failed. There seems no other excuse for the internal administration of suprarenal substance.

### OVARIES

Besides the function of ovulation, the ovaries seem to have an internal secretion, as evidenced by the well-known development of premature climacteric conditions, when both ovaries are removed. The unpleasant symptoms produced by such operations may be stopped by the administration of ovarian substance; consequently, the deduction seems warranted that the ovaries furnish something to the blood necessary to the perfect health of the female.

Preparations of ovaries contain a vasodilator substance, which may, however, be not other than the nucleoprotein contained in such preparations, and nucleoprotein is a vasodilator. Possibly, also, the cholin, which occurs in the decomposition of cholesterin and consequently in such substances as ovarian preparations, may also be a vasodilator.

It is thought by some that the mucous membrane congestion of the nose which always occurs during menstruation and always in both sexes during sexual excitement is due to ovarian secretion. Such congestion, however, is doubtless due to thyroid secretion. Ovarian secretion seems to be necessary for the proper functioning of the mucous membrane of the uterus.

Ovarian substance may be transplanted and functionate, whether the transplanted ovarian substance is from the same animal, from the same species, or from other species, and the animal may menstruate and conceive. Ovarian grafts, after double ovariotomy, have been placed in the broad ligaments and pregnancy has occurred four years later.

It has seemed that many of the disturbing symptoms of menstruation are due to ovarian insufficiency or to increased ovarian activity, and it is doubtless probable that many nervous symptoms in women are due to ovarian disturbance.

The corpus luteum has been thought to be a ductless gland furnishing an internal secretion which is necessary for the nutrition of the trophoblast during early pregnancy. This body subsequently atrophies. It has been claimed that bleeding from the uterus has been stopped by the administration of extract of corpus luteum.

When both ovaries are removed, the menopause is, of course, inaugurated, and various symptoms occur which are evidently distinctly due to the removal of the ovarian internal secretion, and such symptoms have been shown to be ameliorated by the administration of ovarian extract. Signs of gout in women often appear at the menopause. Although it has been stated that the administration of ovarian extract will prevent such symptoms, it often fails. Cancer of the breast may cease to grow after double ovariotomy; this before the menopause. Double ovariotomy has caused insanity.

Osteomalacia has been arrested by the removal of the ovaries; hence this disease may be due to disturbed ovarian secretion, perhaps an over-secretion. It has been suggested that milk from a goat whose ovaries have been removed should be of benefit in this disease.

Many cases of epilepsy develop in girls at the time of puberty, owing to a disturbance of ovarian and thyroid functions.

Ovarian substance has been administered in Graves' disease with some apparent success.

Iron, manganese and thyroid seem to be stimulant to ovarian activity. Whether these stimulants to ovulation are also stimulant to an internal secretion of the ovaries is not demonstrable.

While ovarian substance has seemed many times to prevent the unpleasant symptoms after double ovariotomy, the administration of this gland to a healthy woman apparently causes no symptoms. In amenorrhea it is not nearly so efficient as is thyroid.

### TESTICLES

The general attributes of eunuchs and castrated animals show that there is a secretion from the testicles that is necessary for the normal development and health of the male. Castration before puberty causes animals and man to grow taller than normal, and to grow fat if they lead an indolent life, while the muscle strength depends on the amount of exercise they take.

If boys are castrated before puberty the skin becomes yellowish, and the hair of the face, axillæ and pubes is scanty, though there is plenty of hair on the head. The voice does not attain the masculine type. If one testicle is removed, the other may hypertrophy, and the breasts sometimes hypertrophy when the testicles are removed or atrophy. It is also stated that the prostate does not develop to normal size, but remains as a child's, if the boy is castrated.

There therefore seem to be two parts to the testicles, the seminal gland and an interstitial part. If the interstitial part does not develop in boys, a natural eunuch is the consequence. Variations in the internal secretions of the testicles may be from normal to total absence, and all grades of developmental peculiarities be the result.

If there is thyroid insufficiency, the testicles do not develop properly, and if the testicles are removed the thyroid remains small. In infantilism in the male both thyroid and testicular extracts should be administered, while thyroid alone will hasten delayed puberty.

Preparations of this gland are rich in nucleoprotein, and consequently contain vasodilator stuff. It is not clear that the so-called alkaloid spermin differs from the active principles extracted from other glandular and nervous tissues.

It has not been shown that the feeding of testicular extracts to young castrated animals or man will prevent the development of the characteristics of eunuchism.

Thyroid extract, phosphorus and strychnin have seemed to be stimulant to the testicles.

So far, the only effect of testicular administration seems to be due to the nucleoprotein. Any prolongation of life, or rejuvenation, or preservation of eternal youth, cannot be expected from testicular extract.

### PAROTID

Although it seems almost improbable that the parotid glands furnish an internal secretion any more than do the submaxillary or sublingual glands, nevertheless, there is the ever-frequent occurrence of the infection of mumps causing the peculiar metastasis to the testicles and ovaries. This shows an unexplained relationship of the parotid glands to these sexual glands. It was long supposed that it was only the testicles that were subject to metastasis from infectious parotiditis, but more careful clinical observations have thoroughly demonstrated the fact that the ovaries often become coincidently inflamed and painful in this disease. The consequences of such ovarian congestion, however, have not been shown to be so serious as those from the corresponding testicular inflammation. It is within the range of probability, however, that the ovarian complication of mumps may cause a malfunction of the ovaries that may cause disturbances years after.

Parotid gland substance and parotid gland extracts have been given to patients who suffer ovarian pain and obstructive or congestive dysmenorrhea, and improvement has been observed in these conditions, but this action has not been proved to be more than a coincidence.

### THYMUS

This ductless gland is actively functioning at the time of birth, gradually atrophies during childhood, and ordinarily disappears at puberty. While the thyroid is necessary to the welfare of the growing child, it is not performing its whole function until puberty and its perfect activity seems to be more or less coincident with the complete inactivity of the thymus. While various experiments have been carried out with the object of determining the physiologic function of the thymus, a definite decision as to its use has not yet been deduced. It has been stated that when young animals are deprived of their thymus glands there is diminished growth of the bones. Chemically, on account of its large content of nucleated cells, the thymus gland contains a correspondingly large amount of nucleoprotein. Consequently, it contains a large amount of organic phosphorus.

Various symptoms have been shown to be caused by injections of extracts of thymus, but it has not yet been satisfactorily demonstrated whether young, warm-blooded animals can live without the thymus gland, or just what symptoms the deprivation of its secretion will produce. The gland does not normally contain iodin.

As this gland has its greatest activity during the period of the greatest growth of the body, as the greatest growth in childhood is that of the bones, and as this gland atrophies at about the time when the bone growth is complete, it would seem deductively that the secretion of the thymus was essential for such bone growth.

The thymus has not been proved to be a positive cause of any pathologic condition. If the phosphorus element in the blood were insufficient, and perhaps insufficiency of the thymus may cause this condition, thymic insufficiency could be the cause of the disease of rickets. Also general slow bone growth, slow eruption of teeth, and slow closing of the fontanels of the skull, especially if there were no symptoms of thyroid insufficiency, could be caused by an insufficient secretion from the thymus.

We have no positive knowledge of any symptoms from hypersecretion of the thymus, although this gland has been found enlarged coincidently with enlarged lymphatic glands in conditions of lymphosis. The thymus may be more frequently enlarged in the general lymphatic and adenoid hypertrophies than has been supposed. Its excessive enlargement has been repeatedly stated to be the cause of the sudden death of infants, the so-called thymic death, supposed to be a condition of suffocation.

The administration of thymus gland substance has seemed occasionally to be of value in exophthalmic goiter, has seemed occasionally to have been of value in rickets, has seemed occasionally to have been of value in pulmonary tuberculosis (on the same theory that the hypophosphites have been of value), but no positive result has been proved to occur from the administration of thymus. As a stimulant to the production of an increased number of white blood corpuscles, thymus gland may be administered as successfully as any other nucleoprotein treatment.

### MAMMARY GLANDS

The interrelations between the thyroid, the ovaries, and the mammary glands are well understood. The perfect functions of the mammary and ovarian glands probably cannot occur without proper thyroid activity. The nervous or chemical adjustment between the ovaries and the mammary glands must be most perfect for their perfect correlation. When one set is performing periodic functions, the other set is generally quiescent, and when the other has its period of activity the other is at rest, this as far as their specific functions are concerned. The periodic congestion of the mammary glands just before menstruation, perhaps coincident with ovulation, again shows the correlation of these wonderful mechanisms.

That the mammary glands have, beside their specific secretion, an internal secretion is certainly supposable, but has not been satisfactorily proved. It has not been demonstrated that hypertrophies or large masses of the mammary glands cause any modification of the health of the female as compared with the health of one who has only small or atrophied glands. Consequently, more or less of the glandular tissue of the mammæ, when lactation is absent, does not seem to cause signs or symptoms that can be noted. It has been suggested that, on account of the clinical obervations having seemed to show that mammary preparations, when administered, have a stimulating action on the uterine muscles, the mammary gland has an internal secretion.

The mammary glands are stimulated to hypertrophy probably by both ovarian and placental influences, and certainly ovarian internal secretion seems to be necessary for their development, while the subsidence of ovulation seems to stimulate the milk secretion. On the other hand, it is known that putting a babe repeatedly to the breasts of non-pregnant women has caused the appearance of milk, and even a copious secretion.

Profuse uterine flow may be stopped by the application of a suction pump to the breasts for half an hour daily, during menstruation. This seemed to prevent excessive congestion of the ovaries and also to contract the uterus. The same treatment, between menstruations, seems to stop too great a frequency of this function, in young girls especially.

Mammary substance seems to have a positive activity when administered, and has frequently caused a cessation of uterine hemorrhage, profuse menstruation, and other uterine bleedings. It is also valuable in menorrhagia in young girls. Mammary extracts have not been shown to have any other activity.

### LIVER

Among the manifold duties of this largest gland of the body may be that of furnishing an internal secretion that is antitoxic to various metabolic poisons, probably more especially poisons from disturbed nitrogenous metabolism.

There are various disturbances of the nervous system which seem to denote its irritation by ammonium compounds, and, although the major function of the liver may be performed well, such irritations may denote a mistake of the liver. There may be found on autopsy no histologic changes in the liver tissue, still there are conditions which are termed uremia and cholemia, and unexplained anemias, and there occurs also disturbed purin metabolism, any one or all of which conditions may denote a faulty secretion in the liver.

The liver's relation to sugar metabolism has already been touched on, and it is possible that a cause of the increased amount of sugar in the blood in diabetes may at times be a disturbed internal secretion of the liver.

### SPLEEN

From a histologic standpoint and from the standpoint of what is known of the physiology of the spleen, and from the fact that man and animals can live after the spleen has been extirpated, it seems doubtful if this organ furnishes an internal secretion.

When the spleen is removed, the lymph glands do its work. After such removal there is an increase of the lymphocytes in the blood and a decrease of the red corpuscles, as well as a reduction of the hemoglobin, but, in a few weeks, the blood becomes normal.

Splenic extract has been administered intramuscularly in capillary bleedings, and it has been thought to be of benefit in malarial poisoning.

### KIDNEYS

It has not been proved that kidney preparations, or even raw fresh kidney, when administered, has any positive action, although it has seemed at times as though such kidney extracts did stimulate the secretion of the kidneys and had postponed final toxemias from kidney insufficiency.

### PROSTATE

It has not been shown that the prostate has an internal secretion, or that its administration causes any symptoms, or any benefit in any pathologic condition.

252 York Street.

## THE EVER-LENGTHENING CHAIN OF MEDICAL LITERATURE *

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A man attempting to carry a chain to which new links were being continually added would, in time, find himself fastened to a certain spot by the accumulation, his movements restricted to a circle, the size of which would be determined by the number of links his particular physical development would enable him to lift and carry. No matter how much the chain might be lengthened, the space over which he could move would be in no way extended. The added links would only serve to fasten him more securely to the spot. Medical literature is such an ever-lengthening chain. Hippocrates could arrange and join together all the existing links. Galen could lift and polish and use the whole of it. The schoolmen of the middle ages might count its links, and be somewhat acquainted with them all. But their attempt to carry the whole—the paralysis of original thought caused by trying to learn all that had been written by their predecessors—checked any further progress and prevented any important development in the healing art for centuries. Not until the profession ceased to attempt to carry the whole load of the dead past—not until the mastery of what other men had written ceased to be the ideal of medical education—not until men had turned from what their predecessors had observed of disease to look at it with their own eyes, like

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* Address before the Denver Academy of Medicine, Oct. 28, 1908.

John Hunter, to learn from the body what none could teach in any language, living or dead—not until then did the renaissance of medicine occur.

Compare the products of the time when each scholar exhausted his strength in gaining an acquaintance with every treatise of medical literature, so that he was quite unable to add another fact or observation to the store, with the later period in which students acted on the belief that all was not yet discovered, and that new eyes would see new facts, new minds recognize new relations of cause and effect. Since the latter conception has prevailed the development of the medical sciences has gone on with increasing rapidity until medical literature is no longer represented by a single lengthening chain; but rather by a great number of chains, many of which are already too extended for any one mind to carry. Each department of medicine, each disease, each important medical theory, has a literature of its own that could not be fully mastered in a life-time. To know all that has been written about any one thing in medicine is impossible. To attempt to know it all is to give up one's life to a useless task, to the neglect of more important objects.

And yet, to know a great deal of what others have learned and accomplished is absolutely necessary to every one who aspires to a decent ability to practice medicine or surgery. The part that the most original and energetic student can observe and think out for himself is utterly insignificant compared with the whole mass of knowledge and the perfected technic that may be learned from others by the average member of our profession to-day. To have one's name associated with just one symptom, process, apparatus or theory that proves of permanent importance is to achieve exceptional fame. Leaving out of account all the learning of the past, how little can the most industrious worker, by a year of continuous, well-directed effort, contribute to the common fund of knowledge, compared with the total contributions during the year from the thousands of other workers who are daily dealing with similar questions in all parts of the world! How meager the results of the experience of any one in our profession compared with lessons that might be drawn from the experience of the whole! How trifling the new thoughts that anyone can contribute to the current literature of a year, compared with the sum-total of value which that literature contains!

I have not at hand any statistics of the annual additions to the medical literature of the world, but the College of Physicians of Philadelphia adds to its literature each year nearly 600 new books, of which 80 per cent. are first editions; and many of them are in two or more volumes. The number of American medical journals, according to the "American Medical Directory," is 259. The medical journals, published in other parts of the world, which achieve something beyond a local circulation, are more than 500. There are published each year probably more than 30,000 octavo pages referring to the subject of ophthalmology alone.

We have, then, the fact that the medical literature of the world, even the current medical literature of the day, quite apart from all of the past, is too vast to be mastered, or even superficially examined by the greatest possible individual effort. And we have the second fact that acquaintance with what the literature of the past contains is essential to the success of the physician or surgeon, while a similar acquaintance with the most recent achievements of his contemporaries is equally necessary for the highest efficiency of anyone practicing the healing art.

### WHAT CAN WE DO ABOUT IT?

It will help toward an answer to this question to get clearly in mind what cannot be done. Medical literature cannot be divided into separate departments, so small that the average human mind would be able fairly to master whichever one of them was chosen. The new therapy with vaccines will probably control some of the most persistent and rebellious diseases of the eye, ear and nasal cavities. The expert use of the ophthalmoscope reveals some of the most definite, instructive and the earliest symptoms of general vascular disease. Neither the ophthalmologist nor the internist can afford to be ignorant of what the other is doing. The interrelation of the different departments of medicine could be demonstrated from every medical book or paper published. The oculist who never reads papers on internal medicine, and the man who considers himself a general practitioner, and skips literature relating to the eye, both make a grave mistake that leads into a narrow specialism—the sort of specialism that has always been recognized to be wrong, fatal to general professional progress and individual development, and ending in blind and inefficient routine.

No, we cannot each select a certain line of work and confine our reading to a single group of journals and books, ignoring the greater part of general medical literature. Such a course would inevitably lessen intellectual energy, originality and activity, even in the chosen field of work. The in-and-in breeding of ideas is as certain to lead to degeneration and sterility as the too close breeding of stock. Our best thoughts, our most important glimpses of the truth, will come to nothing unless we can follow them across the lines that ordinarily limit our daily work, and feed them with appropriate nourishment drawn from other fields; unless we can extend our conceptions by observations made from other points of view; unless we can support our thought with facts familiar to other workers, but which have not fallen under our immediate notice. Our problem is not to be solved by the splitting up of medical literature into separate provinces, no matter how wisely these might be planned, or how carefully outlined.

The problem is rather to work out methods by which the student fairly familiar with some small part of medical literature can, with the least unnecessary expenditure of time and energy, follow his line of thought into any other region of medical literature, so that the surgeon confronted by a dangerous or persistent infection can most readily ascertain what is to be hoped from a serum or vaccine therapy; or, when compelled to choose a course of action with regard to deep-seated cerebral disease, can gather all the assistance possible from the special literature bearing on the diseases of the eye, ear and nose.

The accumulation of medical facts has been going on from the time of Hippocrates, and before him on the papyri of Egypt; in the manuscripts of China and India, and on the tablets of Assyria. It goes on in the mind of every practitioner of medicine as it does on every page of medical literature. The time has come when mere accumulation is no longer of the greatest importance, if, indeed, it may not be actually harmful. Arrangement, classification, systemization, the bringing of every accumulated fact in relation with some plan by which the student can most readily and directly reach the things he needs is to-day the extremely important problem confronting us.

The first step toward solving it is the establishment and maintenance of medical libraries. Books must be brought together before any intelligent plan for their effective arrangement and preparation for use can be put into operation. The modern library is everywhere and pre-eminently a cooperative concern. There are already in this country at least six and probably eight or ten medical libraries that have outstripped any private medical library that has ever been brought together. With the present rapid growth of medical literature it must be more and more true that the so-called private library is a partial, incomplete affair, a survival of the past in process of extinction. This fact is best appreciated by those who have most to do with medical literature.

I was a good deal surprised many years ago when Dr. S. Weir Mitchell said that he had just sent the last of his medical library to the College of Physicians of Philadelphia. But with wider acquaintance in medical literature, and a better understanding of the uses of books, I can see that it was the only reasonable thing to do. To have the books properly arranged and cared for, and especially to have, not only what had been his own, but what had belonged to a great many others made equally accessible, all of them in one place, and included in one arrangement, far more than compensated for the distance of a few blocks that the collection was removed from his office. The incompleteness of the private library, and the fact that when it runs above 1,000 volumes, it is scarcely ever kept in complete order, or is kept in order only at relatively great expense, the fact that it is a hundred times more difficult to consult ten separate collections than one in which all the available books are brought together, make the private library an extremely wasteful and inefficient instrument as compared with a library which represents cooperative effort.

We must not forget that a library is something more than and something very different from a mere collection of books. It consists of publications arranged with reference to some plan that makes them accessible. Ten thousand volumes without any intelligible arrangement would be worth very little more than so many tons of waste paper.

The private library, in so far as it is arranged at all, corresponds simply to the habits and development of its owner or caretaker. On that account it is of comparatively little use in other hands. Where father and son have been physicians, in every instance I have known, when the son came into possession of the father's library he promptly sold or gave away the great bulk of it, although it might be fairly supposed that the good it contained would have been more accessible to him than to other members of the profession. A medical library, to be an efficient instrument of the profession, must be thoroughly systematized on some general plan and cared for by a skilled attendant whose acquaintance with it constitutes the key required to unlock the treasures of medical literature.

The economy of cooperation in attempting to gain access to medical literature is enormous and obvious to anyone who gives the matter a moment's thought. Compare what can be done by individuals spending $25 a year for medical journals, and ten of them combining to share the journals that can be purchased with the resulting sum when combination has eliminated useless duplication. The library bureaus charge $5 a year for the bibliography of a single subject. The *Index Medicus*, for a little more, furnishes the bibliography of thousands of subjects connected with medicine.

It may be admitted that medical literature has grown too vast to be mastered by the individual. It may be admitted that any effort to become acquainted with it or to use it will be far more effective, far more economically applied by cooperation with others seeking the same end. But it may be urged that comparatively few doctors are interested in books, and that, while it is proper for these to go ahead and establish libraries and to take care of them, others of the profession have very little interest in the matter. It is the prevalence of this error that more than anything else hinders the progress of medicine and keeps down the efficiency, and therefore the influence and income, of the medical profession.

It is true that comparatively few men have the taste for wide, close, persistent reading. It is true that a large proportion learn more from experience and contact with their fellows. But these latter are in an especial degree dependent on their associates for the stimulation and fruitfulness of their intellectual processes. One bookworm, grubbing continuously in the library, visionary, impractical, and unheard of in the community, may do more to keep up the standard of professional information and activity of thought among his associates than the dozen men who see the largest number of patients or possess the best professional incomes.

The man who attempts to practice medicine without drawing on the experience of the profession in the past and without contact with the professional thought of his contemporaries remains ignorant and degenerates into the lower type of charlatan. If the minds are few that willingly devote their chief energies to the study of medical literature, it is all the more important to the profession at large that they should be furnished with the opportunities to do under the best conditions, this work, which, although recompensed only by the pleasure it gives the worker, is yet essential to the welfare of the profession as a whole. If we cannot be learned ourselves, let us have the benefit of association with those who are widely read.

It seems reasonable to expect that those whose usefulness in the community and whose ability to earn an honest livelihood comes wholly through the application of knowledge transmitted through medical literature should contribute to establish and sustain a medical library, even though they have no great appetite for reading, and prefer rather to profit by contact with others who keep more closely in touch with the movements in medical thought. When this responsibility is shirked even by some who pose as teachers and leaders in the profession, who decline to give for this purpose even a fraction of what they contribute for churches, politics or social clubs, is there not need for active consideration and discussion of the relation the medical profession should bear to the swiftly augmenting literature of medicine?

A medical library develops slowly, especially during its earlier years. Time will be required to perfect it. It cannot be started too soon, or urged forward with too much energy. But in spite of all we can do we shall have to wait long before its size and efficiency will be what we desire. And if such a library is to be to us all that it might, when we have secured it, there is need meanwhile to learn to handle to better advantage the portion of medical literature already within our reach. Certain well-established principles should be applied to the writing of articles and the editing of journals and the compiling of books. But this is too long a story to take up here. It is of more immediate interest to consider plans for the systematic study of current medical literature in a cooperative way. The council of the academy has decided to arrange to give a part of each of the meetings, during the coming winter, to the presentation and discussion of the recent literature of some department of medicine or some particular subject of general interest. It is to be hoped that this will stimulate reading, and thought about the best methods of reading; that it will develop the power of getting at the kernel, with the least hindrance from the chaff, which constitutes such a large proportion in the vast bulk of the present medical literature.

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# THE CLINICAL SIGNIFICANCE OF AEROPHAGIA *

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One of the most common complaints of patients suffering from so-called indigestion is belching, or eructation, of gas. These patients frequently say that everything they eat "turns to gas" and they occasionally volunteer the information that they are afflicted with "gastritis." They invariably believe that the condition is due to the fermentation of food in the stomach, and in most cases they have been treated with restricted diet and a variety of drugs by physicians who also believe that a process of fermentation is responsible for the symptom. The purpose of this paper is to show that the gas which these patients expel is nothing but atmospheric air, in the vast majority of instances, and that the condition is directly dependent on the fact that these patients, all unconsciously, swallow the air with their food or between meals.

Aerophagia, or air-swallowing, is seen in its most striking form in hysterical subjects and in other individuals with well-marked neurotic stigmata. In such cases enormous volumes of air may be expelled. Instances are on record of patients who have belched over 5,000 times in twenty-four hours; and the amount of air eructated has been measured and found to exceed 200 liters. It is evident, in examples of this kind, that the quantity of air expelled is many times in excess of that which could possibly be produced by any conceivable process of fermentation. Furthermore, the air expelled in such cases has been collected and analyzed by several investigators, who have shown that it approaches in composition atmospheric air, being composed almost entirely of nitrogen and oxygen with an admixture of but a small quantity of carbon dioxid, the latter being derived from the decomposition of the carbonates in the food or in the alkaline saliva.

This interesting condition was first described in 1814 by Dejardin, who cites the case of a conscript who, in order to escape military service, swallowed large quantities of air which produced abdominal tympanites. Since that time a number of writers have maintained that air can be introduced into the stomach during respiration and especially during deglutition of saliva and food. Bouveret, in 1891, published an elaborate discussion of the mechanism of this affection and gave it the name "aerophagia." The condition, as it occurs in the extreme cases, has become a well-known clinical phenomenon. The eructations are almost always accompanied by more or less noise and the condition is a distressing one to witness.

The worst case I have seen was in a young newspaper reporter who had attacks when he would belch for several hours at a time. The act was accompanied by a to-and-fro movement of the head; each time the head came forward he would let out loud reverberating sounds that could be heard throughout the length of a large hospital ward.

I saw a second marked case two summers ago in a stout woman who was accosted by a negro while walking alone in a country road. She was greatly frightened and ran the distance of about three city blocks to reach her hotel. For a month after this experience she suffered intensely with abdominal distention and flatulence, so that she walked the floor a good portion of each night. The "cure" in this case was most interesting in that the condition absolutely disappeared in thirty-six hours after she was told that she was swallowing air. She had a "relapse" about a year later while undergoing treatment in the hospital for a nervous tic, and her abdomen became so distended that she reminded one of a toy balloon; it seemed as if she might rise out of the bed at any moment and go bumping against the ceiling. In this article, however, it is not my intention to discuss these extreme cases, but to show that air-swallowing is a very common affection and occurs to a greater or less degree in the majority of cases of the "false gastropathies" and other forms of so-called indigestion. A most excellent article on the subject of aerophagia, together with a very complete bibliography, is that by Spivak,[1] of Denver, Colo.

It is interesting to reflect for a moment that the phenomenon of swallowing air is not limited to man alone. Other animals, especially the horse, are subject to this affection. In the paper to which reference has just been made, Spivak quotes a communication from Mr. A. M. Farmington, Acting Chief of the Bureau of Animal Industry, U. S. Department of Agriculture, which deals at length with this subject:

> Indigestion, or dyspepsia (in the horse) was formerly attributed as the cause of air-swallowing, but later observers have more properly classed it with the vices, and in the same category with a considerable number of other whims, bad or vicious habits, resulting in most instances from idleness, which the horse, free from restraint, incessantly repeats without any other motive in reality than the gratification of desires which finally become imperative, but which always interfere with his complete serviceability. The modes by which the horse accomplishes the act of air-swallowing are known by the names of "cribbing" and "wind-sucking." Usually, in cribbing, the horse takes a point of support or contact for his upper incisor teeth, which causes an abnormal wear of the teeth, and the vice can thus be detected. Less frequently he cribs the air without taking a point of contact, and is what is called a "wind-sucker." To crib in the air, the animal begins a rapid up-and-down movement of the lips, then suddenly lowers his head—sometimes to the level of his knees—and swallows a mouthful of air; most frequently with the production of a gutteral sound, which has sometimes been wrongly interpreted as an eructation. When the effort is not successful, and is confined to the simple act of deglutition of saliva, the attempts are renewed until the desired satisfaction is secured.

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* Read before the Medical Society of Virginia, at its Fortieth Annual Session, held at Roanoke, Va., Oct. 5-8, 1909.

[1] Spivak, C. D.: Aerophagia and Flatulence, Med. Rec., New York, 1905, lxvii, 649.

> Cribbing with support differs from the foregoing in that, in order to execute it, the inferior extremity of the head is supported or braced by means of the incisors upon a resisting body of some kind, such as a post, the bottom or edge of the manger, a window-sill, a cross-piece of a hay-rack, a shaft or pole, the halter or harness of his mate, etc. When subjects are prevented from cribbing on a support they will sometimes learn to crib in the air, and vice versa. A colt of a cribbing mare has been known to acquire the vice considerably before the age of one year. The muscles used in air-swallowing are not different, nor is the mechanism apparently different, except as above noted, from the act of deglutition generally. Remedies consist in the removal, so far as practicable, of objects that may serve as a base of support for the inferior extremity of the head, and the buckling of a strap around the neck just below the gullet. These methods, however, do not effect a cure, but only prevent the act while in use. Surgical operations have likewise failed to yield permanently satisfactory results.

The mechanism of air-swallowing in man has been variously described by different observers. Most of these agree that the air enters the stomach in the same way as food, i. e., by an act of deglutition. Other writers ascribe the condition to an aspiration or sucking of air. Whatever may be its exact mechanism, we know that it may occur in conditions of perfect health, particularly after rapid eating. Further than this, a great many of us can learn to swallow air after a certain amount of practice and bring it up again with loud eructations. Personally, I believe that the condition is always associated with more or less loss of tone in the muscular walls of the stomach, and this conception is readily understood by an analogy with the blood-vessels. We all know that the blood-vessels are hollow muscular tubes which are quite elastic and are regularly held in tone, or in a condition of partial contraction, by means of the vasomotor nerves. There is a most close relationship between the emotions and the state of vasomotor control. A trivial remark may cause an individual to blush so that the face becomes scarlet in color from the dilatation of every blood-vessel of the part. This is unquestionably due to an inhibition of the vasoconstrictors so that the nerves "let go their hold" and the pressure of the contained blood greatly increases the caliber of the vessels. Emotions of a different sort, such as fright, the sight of blood, etc., may cause the individual to become very pale, with almost blanched face. This may be due to a stimulation of the vasoconstrictors of the superficial blood-vessels, but more probably, I believe, to an inhibition of the vasoconstrictors of the large internal vessels of the trunk, a form of internal blushing, so to speak, so that the blood collects to a large measure in the splanchnic area with resulting pallor of the face and extremities. Now, in much the same manner, as I have elsewhere[2] suggested, it is most probable that certain states of nervousness produce an inhibition of the nerves having to do with the normal state of tone of the stomach musculature. Certain emotions, or reflex agencies, bring about a loss of tone in the walls of the stomach exactly analogous to the inhibition of the vasoconstrictor nerves which induces blushing. In this way there is produced a potential or actual relaxation of the stomach walls, so that the organ is easily inflated by air swallowed with the food or between meals. The eructations are produced by the irritable contractions of the stomach, while at the same time some of the swallowed air may be forced through the pylorus and give rise to intestinal flatulence.

In addition to this relaxation of the stomach walls there is probably another factor. Most patients with functional stomach disorders suffer from a sense of fulness after meals, which is probably associated with a hyperesthesia of the gastric mucous membrane. They ascribe it to an accumulation of gas, of which they wish to rid themselves by belching. They do not at first succeed in this, however, and they therefore go through the form of belching in which they soon swallow air and then bring it up again. Many patients with hyperacidity and sufferers from gastric ulcer secure temporary relief from the pain by taking a full dose of bicarbonate of soda. This is invariably followed by belching of gas, due to the carbon dioxid generated by the action of the hydrochloric acid of the stomach contents on the sodium bicarbonate. The relief is caused by the neutralization of part of the acid, but the patient attributes it to getting rid of the gas. Most neuropaths are conscious of their stomachs at times and to this is due a great many of their subjective symptoms.

I could not refrain from laughing at a colleague of mine who entered my office a few days ago with a very long face and a most dejected expression. When asked the cause of his trouble he said that he was suffering from a "terribly sour stomach." He may or may not have been comforted by my opinion that his stomach ought to be sour, inasmuch as it was secreting hydrochloric acid if it were in proper working order. He would have found himself in a far more serious condition if his stomach were not sour. As it turned out, his gastric secretions were normal and his trouble was not "indigestion," but a neurosis. The sooner we learn to appreciate the true nature of the various gastropathies the less formidable will become the task of getting our patients well.

In presenting the point in this article special emphasis is being laid on the possibility of swallowing air and the great frequency of its occurrence. It is not my intention to claim that all cases of flatulency are due to aerophagia. We know very well that actual fermentation does occur in the stomach and bowels, and in such cases foreign gases may be demonstrated, notably hydrogen and hydrogen sulphid. Careful study, however, will easily prove that cases of actual fermentation are exceedingly rare, and I do not believe that they occur except in the presence of definite obstruction with stasis, or in patients acutely ill with perversion of the gastrointestinal motility and secretions from either inflammatory or toxemic conditions.

Aerophagia is entirely independent of the character of the gastric secretions, and is to be classed as a neurosis. It is possible, as has been suggested by Stern,[3] that over-indulgence in outdoor sports, such as bicycle-riding, baseball, etc., may bring on an acute aerophagic condition, especially in untrained athletes who are mouth-breathers. Air-swallowing occurs relatively as frequently in patients with gastric subacidity as in those with an excess of hydrochloric acid, and is just as much a feature of organic stomach conditions as purely functional ones. An analysis of my records of cases, examined from July, 1908, to July, 1909, shows 74 cases of neurasthenia, most of whom were referred to me for symptoms on the part of the stomach. In 27 of these cases aerophagia was a prominent symptom. During this same period, 26 cases of gastric and intestinal neuroses were seen with 11 examples of aerophagia. Air-swallowing was a pronounced feature of 4 out of 7 patients with marked visceroptosis, in whom no evidence of actual fermentation of the stomach contents could be demonstrated. In this same year I saw 21 cases of gastric and duodenal ulcer, 8 of whom complained very much of this symptom. In 4 patients with carcinoma of the stomach, 2 suffered with it, while the other 2 were not at all troubled. An analysis of these 132 cases showed that 52 complained of flatulence or eructations. One or more gastric analyses were made in 35 of these 52 patients. Ten of these 35 cases showed a temporary or continued absence of free hydrochloric acid in the stomach contents after the test breakfast. The remaining number showed a normal gastric secretion with the exception of 4 cases of marked hyperacidity.

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[2] Vanderhoof, Douglas: The Rational Treatment of Indigestion, Old Dominion Jour. Med. and Surg., 1908, vii, 356-365.

[3] Stern, Heinrich: The Clinical Importance of Aerophagia, New York Med. Jour., 1904, lxxix, 337.

The symptoms that accompany aerophagia are those of the underlying functional or organic disease, plus the effects that the air in the gastrointestinal tract produces. In hysterical subjects the air may not even enter the stomach, but accumulate in the esophagus, from which it is audibly expelled after a short time. In other instances the swallowed air may pass through the pylorus and cause excessive intestinal flatulence. This appears to be quite common in neurotic women who often complain of more or less sudden "bloating" which compels them to remove their corsets or other tight clothing. Cases of aerophagia present an interesting picture when viewed on the fluoroscopic screen. When the patient makes an effort to expel the air from the stomach only a small portion of it is thrown out and the stomach walls are seen to contract violently, forcing the air-filled *Magenblase* up against the diaphragm. After one has seen this procedure repeated time after time at short intervals, it is not hard to conceive that such a violent internal upheaval should cause unpleasant symptoms.

The importance of recognizing the true nature of these cases accompanied by aerophagia is evident. The condition is almost invariably misinterpreted and it would seem that the possibility of air-swallowing is a clinical feature that is generally overlooked.

The treatment of aerophagia is most interesting in that many patients get well over night, so to speak, on simply having the true nature of their affection explained to them. The condition is essentially a symptom and not a disease, hence every patient requires a thorough physical examination in addition to a careful scrutiny of the gastrointestinal tract. The important thing is to find and treat the underlying cause, whether it be organic, functional or, as in some cases, simply a habit. In the purely functional cases it is a serious mistake to attempt to cure these patients by means of restricted diet and so-called intestinal antiseptics. What these individuals need is building up, and improvement often begins as soon as they are given forced diet with starches and sweets. It should be pointed out to the sufferer from aerophagia that the air he eructates is odorless, and that he brings up much more gas than could be produced by any form of fermentation of the quantity of food ingested. It is usually a simple matter to demonstrate to him that the symptom does not depend on the quality of food he eats, but that it is most prone to occur when he is worried, fatigued or provoked. A good many cases are seen in which the loss of nerve tone in the walls of the stomach is unquestionably reflex from pathologic conditions outside of the gastrointestinal tract. A competent oculist has been able to relieve a number of my patients by finding and correcting previously unsuspected errors of refraction.

Several drugs are of service in controlling the symptom when it arises. Probably the first among these is asafetida. While this drug is generally credited with having some special effect in reducing flatulency, I suspect very strongly that the true reason of its efficacy lies in the fact that patients stop belching after its administration because with each eructation they are reminded of the horrible odor of the drug. A good drink of whisky, taken undiluted, or a dose of aromatic spirits of ammonia, often relieves by stimulating the muscular walls of the stomach to contract and so expel the contained air. Other remedies that may be tried are chloroform water and turpentine. The use of the stomach-tube is rarely indicated in cases of chronic or recurrent aerophagia. Its employment is similar to the folly of prescribing a special diet, designed to be free from fermenting substances. Both of these measures are not only useless in preventing aerophagia, but, by their rigid persistence, serve to attract the patient's attention to his affection, and so tend to perpetuate or aggravate the habit.

### SUMMARY

1. Aerophagia is a well-known clinical phenomenon, seen in its most characteristic form in cases of hysteria.

2. It occurs, however, in normal individuals, and is a most common symptom in functional stomach disorders.

3. In such cases its significance is very frequently misinterpreted as being due to some form of fermentative [illegible]

4. [illegible] ion in the gastrointestinal tract is a rare occurrence, and never gives rise to the excessive quantities of gas that are expelled by the aerophagic patient.

5. Aerophagia is a neurosis associated with a loss of tone in the muscular walls of the stomach, so that the organ is easily inflated by air swallowed with food or between meals.

6. It is entirely independent of the character of the gastric secretions, and occurs relatively as frequently in patients with anacidity as in those with an excess of hydrochloric acid.

7. It does not depend on what the patient eats, but on the condition of the stomach nerves when he eats.

8. The treatment of the condition, after excluding all organic diseases and correcting all possible reflex causes, consists principally in explaining to the patient that the gas he eructates is not due to fermentation, but that it is atmospheric air that he unconsciously swallows.

603 East Grace Street.

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**Tonsils Responsible for Relapses in Syphilis.**—Guszman announced some time ago that spirochetes might often be found in regions previously the site of manifestations of the disease but now free from such. In a recent communication to the *Monatshefte für praktische Dermatologie*, L, 1910, 10, he states that the spirochetes may be found lurking in regions entirely free from manifestations at any time. The tonsils are especially liable to shelter them in this way, and he describes three cases in which spirochetes could be cultivated from the tonsils during the year after infection although there had been no symptoms on the part of the tonsils to draw attention to them. The positive findings in these cases, after energetic specific treatment had apparently aborted the disease, shows that freedom from symptoms is by no means synonymous with complete extermination of the spirochetes, and that their persistence at inaccessible points may be responsible for the flaring up of the infection later.

# INFANT MORTALITY AND ITS REDUCTION, ESPECIALLY IN NEW YORK CITY *

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The awakening of the world to a consciousness of the immense sacrifice of infant life is recent. Most of it has come within the last twenty years.

The economic importance of this subject in certain of the European countries, especially Germany and France, has engaged the attention of the governments, and there the question of infant mortality is being studied with great interest. This has been forced on the attention since in all European countries a steadily declining birth-rate is evident. This decline in the last twenty-five years in eleven European countries has been from an average of 33.7 per thousand of population to 30 per thousand, or about 10 per cent. of births. The fall is least in Ireland, Norway and Sweden, and greatest in England, Germany, Italy, Austria and Hungary. No such decline is as yet apparent in this country, owing to the influx of immigrants into our large cities. But for this it would be great, as is indicated in the statistics of rural communities where a marked decline is reported. How great a factor immigration is in maintaining the birth-rate of our cities may be illustrated by comparing different parts of New York City. In the best residential portion, the present birth-rate is 4 per thousand of population; while in districts occupied chiefly by Italians and Russian Jews it is from 40 to 45 per thousand.

Infant deaths—i. e., deaths under one year—in different places and under different conditions form at the present time in civilized countries from 20 to 25 per cent. of all deaths. Eröss,[1] in 1894, collected data from thirteen European countries for a period extending from 1879 to 1892, the years not being always the same for each country, and found that in a total mortality of 28,660,733 the deaths under one year were 7,708,978, or 26.9 per cent. of all.

Taking the average estimate of many writers, it may be said that, of every 1,000 infants born, one-fifth die during the first year. While the impression prevails that the death-rate in infants has recently fallen considerably, this view is contradicted by some who have given special attention to this subject, by whom it is urged that the fall in the death-curve is simply due to the decrease in the number of births.

In order to arrive at a correct idea of the infantile death-rate, it must be considered from several points of view. I have studied it in several centers of population, but chiefly in New York City, (1) in relation to the total population, (2) in relation to the total death-rate, (3) in relation to births, (4) in relation to the estimated population under one year.

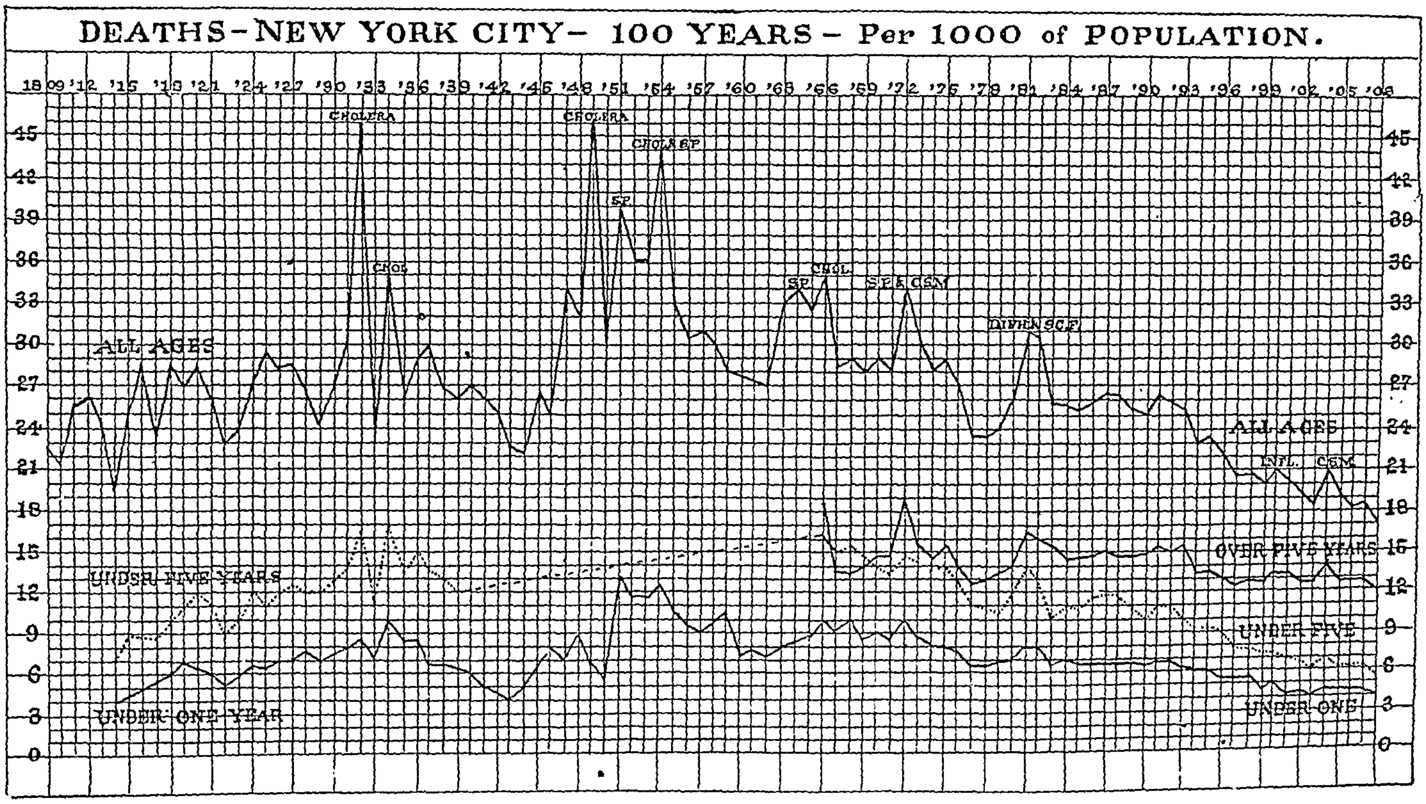

Chart 1.

The results of these studies are embodied in the accompanying charts. Chart 1 gives the death-rate for New York City (Boroughs of Manhattan and Bronx) for one hundred years. During this time the population has increased from 91,618 to 2,620,447; and the total deaths per year from 2,038 to 44,061. Thus, while the population has increased 29 times, the total deaths have increased but 22 times. The upper curve gives the mortality for all ages and indicates the city's health for the century. The figures for the earlier years are probably not absolutely correct; but they are taken from official sources and are the best obtainable.[2]

Beginning with a death-rate of about 22 per thousand, an irregular but steady increase is seen up to about 1866, when the general rate was about 35 per thousand; in exceptional years it was much higher than this. From that time a general decline is seen until 1908, when the

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909. Owing to lack of space, the article is here abbreviated. The complete article appears in the author's reprints.

[1] Eröss: Archiv. f. Kinderh., 1894, ix, 249.

[2] Documents of the Board of Aldermen, 1809-1842, were chiefly used for early New York records.

rate was but 17 per thousand, the lowest point in the century. The obvious explanation of this seems to be that the rapid increase of population with very little regard for sanitation brought about a steadily rising death-rate. With the beginning of modern sanitary regulations, however, a change soon became apparent. In 1866 the New York Health Department was organized. Largely through its activities and the advances in our knowledge of the methods of preventing disease there has occurred a reduction in the death-rate which, when we consider the constantly increasing concentration of population and the present condition of overcrowding, seems truly remarkable.

Up to the year 1854 the mortality line is a very irregular one, the sharp peaks indicating the great epidemics which visited the city. But these wide fluctuations gradually disappear, and since 1882, especially, the yearly variations are within comparatively narrow limits.

The year 1832, the first great rise, marks the great cholera epidemic; a similar one to-day would mean 35,000 deaths in the boroughs of Manhattan and Bronx.

The years 1834, 1849, 1854 and 1866 were also cholera years. Epidemics of smallpox were witnessed in 1849, 1851, 1854 and 1865.

An epidemic of cerebrospinal meningitis occurred in 1872, and the same year smallpox was also prevalent.

The years 1881 and 1882 were years of great prevalence of both scarlet fever and diphtheria. The rise of 1901 was due to influenza and complicating pneumonia; that of 1904 marks the most severe year of the recent epidemics of cerebrospinal meningitis.

The line of infant mortality (under one year) follows in a general way that of total mortality, but shows fewer abrupt rises, since infants were less affected than were adults in the epidemics. At what period of life the reduction in the death-rate has occurred does not appear until we separate the deaths over five and the deaths under five, and again the deaths under one and deaths from one to five years.

From 1866 to the present the accuracy of the figures can, I think, be depended on.[3] Since that time, comparing deaths over five with those under five, we note that for the first few years, until about 1870, these mortality lines repeatedly cross each other, indicating that at that time half the total deaths, some years even more, were in children under five. A gradual divergence of these two curves is noted from this period. There is a slight fall in the line for over five years, but a very marked one in that for under five years. In 1908, at the end of the period, the death-rate under five is only half that over five, or one-third the total. Since 1866 the death-rate over five has fallen from 18.4 to 11.2 per 1,000; that under five has fallen from 16.4 to 5.8 per 1,000. It is, therefore, with children under five that the principal reduction in the death-rate has occurred.

Separating now the deaths under one year and those from one to five years, we find that a slightly greater reduction has occurred in the latter than in the former group. The death-rate for children under one has fallen from 10 to 3.8 per thousand; that for the ages one to five has fallen from 6.3 to 1.9 per thousand. In proportion to the population, therefore, the mortality for these ages is approximately one-third what it was about fifty years ago.

But since those who doubt the fact of a reduction in infant mortality argue that these figures are only one result of a declining birth-rate, there is shown in Chart 2 a comparison of the births per thousand of population for the same period. The birth-line shows an irregular but steady rise for the period. This is not, however, wholly to be trusted. The registration of births in New York City is by no means as uniform as are the death reports, or as the birth records of many European cities.

The Registrar of Vital Statistics of New York estimates that for the early part of the period under consideration only about 70 per cent. of the births were recorded, while at the present time only about 92 per cent. are recorded. Even making this correction, we have a birth-line which tends slightly upward, to compare with a death-line which tends steadily downward. The rise in the birth-curve is due, as already mentioned, to the great influx of foreign population.

Precisely the same result is shown if we take another standard of comparison, viz., the deaths under one year and the population for this age. The records for the population under one year are available since 1888. These are derived from the actual enumeration in census years and are estimated for the intervening periods.

In 1888 the deaths under one year were 10,411, or 24.4

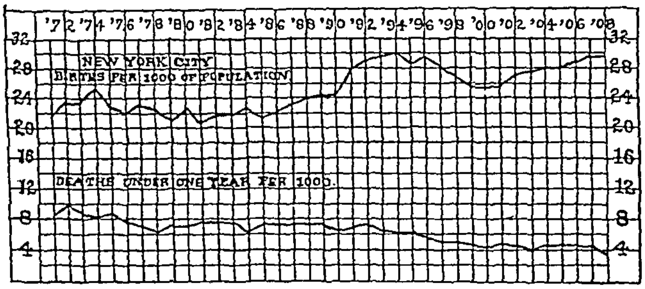

Chart 2.

TABLE 1.—STATISTICS OF POPULATION AND DEATH-RATE OF CHILDREN IN VARIOUS LARGE CITIES

| City. | Year. | Population. | Population under 5 yrs. | Per cent. of children to population. | Deaths under 5 years. | Deaths under 5 yrs. per 1,000 of population under 5 yrs. |
|---|---|---|---|---|---|---|
| New York.. | 1880 | 1,209,268 | 140,673 | 11.6 | 14,650 | 104 |
| | 1890 | 1,631,232 | 189,760 | 11.6 | 16,305 | 85 |
| | 1900 | 2,053,979 | 233,537 | 11.3 | 15,646 | 66 |
| | 1907 | 2,541,084 | 291,208 | 11.4 | 15,645 | 53 |
| Boston .... | 1880 | 362,839 | 29,649 | 8.2 | 3,349 | 112 |
| | 1890 | 448,477 | 40,001 | 8.9 | 3,349 | 83 |
| | 1900 | 560,892 | 57,361 | 10.2 | 3,752 | 65 |
| | 1907 | 609,757 | 72,166 | 11.8 | 3,160 | 43 |
| Chicago ... | 1880 | 503,298 | ...... | ... | 5,639 | 95 |
| | 1890 | 1,200,000 | 140,783 | 11.7 | 9,954 | 70.7 |
| | 1900 | 1,698,575 | 190,355 | 11.2 | 8,282 | 43 |
| | 1907 | 2,107,620 | 213,713 | 10.1 | 10,077 | 47 |
| Philadelphia. | 1880 | 846,980 | 91,544 | 10.8 | 6,594 | 72 |
| | 1890 | 1,046,964 | 103,847 | 9.9 | 7,913 | 76 |
| | 1900 | 1,293,697 | ...... | ... | 8,078 | ... |
| | 1907 | 1,500,596 | 147,988 | 9.8 | 7,669 | 51 |
| London ... | 1880 | 3,771,139 | 497,044 | 13.1 | 36,220 | 72 |
| | 1891 | 4,221,452 | 501,558 | 11.8 | 33,340 | 66 |
| | 1900 | 4,589,129 | 546,570 | 11.9 | 31,139 | 56 |
| | 1905 | 4,684,794 | 518,794 | 11.0 | 24,838 | 47 |
| Paris ..... | 1880 | 2,239,938 | 148,601 | 6.6 | 17,159 | 115 |
| | 1891 | 2,424,705 | 150,490 | 6.1 | 14,048 | 93 |
| | 1900 | 2,511,629 | ...... | ... | 8,966 | ... |
| | 1905 | 2,722,731 | 170,694 | 6.6 | 8,617 | 50.4 |
| Berlin .... | 1880 | 1,123,749 | 183,060 | 16.2 | 19,249 | 105 |
| | 1890 | 1,579,524 | 164,370 | 10.4 | 17,630 | 107 |
| | 1900 | 1,864,203 | ...... | ... | 15,498 | ... |
| | 1907 | 2,096,318 | 183,441 | 8.8 | 10,833 | 59 |
| Vienna .... | 1880 | 721,016 | 58,023 | 8 | 8,219 | 141 |
| | 1891 | 1,378,530 | 130,808 | 9.4 | 15,610 | 110 |
| | 1900 | 1,656,662 | 160,233 | 9.6 | 13,650 | 85 |
| | 1905 | 1,897,630 | 213,884 | 11.2 | 13,282 | 62 |

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[3] Reports of the New York Health Department, especially 1906.

per cent. of the estimated population under one year. In 1908 the deaths under one year were 10,073, or 15.1 per cent. of the estimated population under one year.

The evidence seems, therefore, conclusive that during the period of the last twenty-five to thirty years there has been in New York a very great and steady reduction in the mortality of infants and young children, that this has been both relative and actual, and that the actual mortality is now only about one-half what it would have been had the old conditions prevailed.

Similar conditions have been found to exist, but to varying degrees, in all the other large cities which I have studied—Chicago, Philadelphia, Boston, London, Paris, Berlin and Vienna. Table 1 gives for these cities since 1880 the variations in the total population, in the child population (under five years), the deaths under five, and the deaths per thousand of child population.

The most significant figures in the table are those indicating the change in the death-rate of children compared with the child population in the period studied. This is graphically shown in Chart 3.

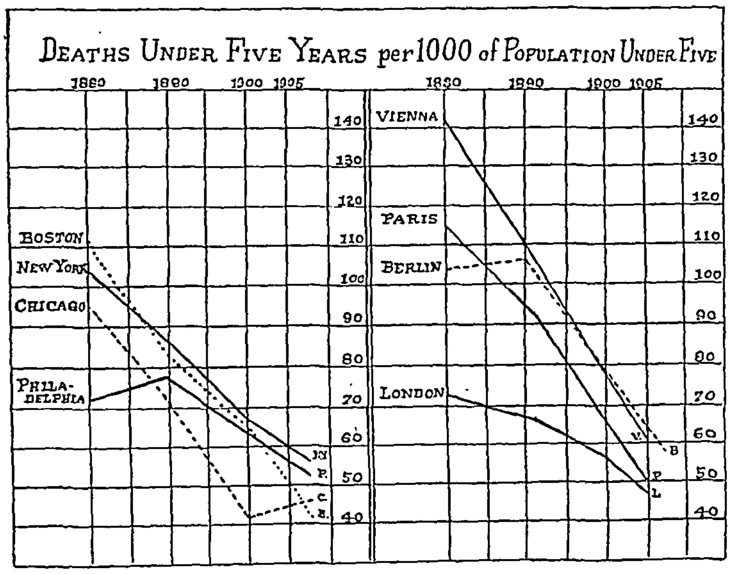

Chart 3.

The figures for deaths under one year were not available for all the cities hence I have used those of deaths under five years for the comparative study. This is quite proper, since the deaths under one year bear everywhere a fairly constant relation to the deaths under five; i. e., two-thirds, or 66 per cent. They are very slightly less than two-thirds the total for the beginning of the period and slightly more than two-thirds the total for the latter part of the period. In other words, the fall in the death-rate from one to five years has been slightly greater than that under one year.

Such a correspondence in results in all these different places is too close to be accidental. It is certainly striking that in recent years the death-rate of children in eight large cities of the world is so nearly the same. Different agencies have no doubt operated in different cities to bring about this result. It is not possible from my own investigations to state in detail what these have been.

It is also rather striking that at the present time the ratio of the child population (under five years) to the total population is nearly the same (a little over 11 per cent.) in New York, Boston, London and Vienna. It is much lower in Berlin, but is lowest of all in Paris.

All the advances in modern medicine have, after all, done very little to reduce adult mortality. It is true that cholera and smallpox have been practically eliminated, that typhoid has been curbed and tuberculosis reduced, but pneumonia, cardiac disease and Bright's disease are steadily increasing. Adult deaths are inevitable, but infant deaths are very largely preventable, and herein is the hopeful sign of this problem.

### CAUSES OF INFANT MORTALITY

The most fundamental cause of high infant mortality is *infancy itself*, the period in which the organism has the feeblest resistance to adverse conditions. The younger and more delicate the infant, the greater the perils that surround it. Hence we find, as we would expect, that the highest mortality of the first year is during the first month, and that the death-rate steadily decreases with each advancing month of life.

Chart 4, from figures of Westergaard,[4] Berlin, for the years 1893 to 1897, shows *that 25 per cent. of the deaths* of the first year occur in the first month and 47 per cent. during the first three months.

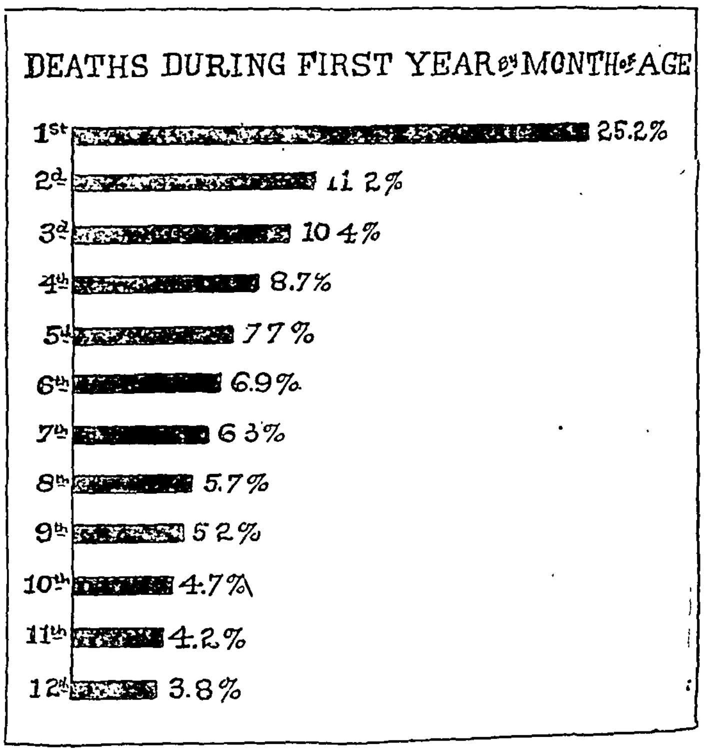

Chart 4.

TABLE 2.—PERCENTAGE OF DEATHS UNDER ONE YEAR FOR THE DIFFERENT AGE PERIODS

| | London. | Berlin. |
|---|---|---|
| First day | 9.64 | .... |
| Second to seventh day | 11.09 | .... |
| Second week | 5.08 | .... |
| Third week | 4.98 | .... |
| Fourth week | 3.78 | .... |
| First month | 34.6 | 25.3 |
| Second month | 11.4 | 11.3 |
| Third month | 8.4 | 10.4 |
| Fourth month | 6.9 | 8.7 |
| Fifth month | 5.9 | 7.7 |
| Sixth month | 5.25 | 6.9 |
| Seventh month | 5.20 | 6.3 |
| Eighth month | 4.8 | 5.7 |
| Ninth month | 4.7 | 5.2 |
| Tenth month | 4.5 | 4.7 |
| Eleventh month | 4.2 | 4.2 |
| Twelfth month | 4.1 | 3.8 |

In Table 2 these Berlin figures are compared with those of London[5] for 1907. They correspond in a very striking manner. The London figures, moreover, indicate how large a part of the first month's mortality is in the first week. This group, which forms over 20 per cent. of the deaths of the first year, is largely made up of hopeless cases.

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[4] Pfaundler and Schlossman: Diseases of Children; American Translation, i, 294.

[5] Reports of the Registrar-General, London.

Brothers,[6] writing in 1896, is authority for the statement that in four years, 1889-1892, there were recorded 173,126 births. During the same period there were 16,888 deaths within the age of one month, not including premature births. Making the estimated correction for the incompleteness of birth returns already referred to, it would appear that at that time about 8 per cent. of children born did not survive the first month.

Eröss[1] in 1894 gives even higher mortality figures for the first month. From figures collected from sixteen large European cities, including 1,439,056 births, he states that 9.5 per cent. died during the first four weeks, and that during this time the number of deaths was as great as in the remainder of the first year. A great reduction in the mortality of this first month has been brought about since the time of which he wrote by the general introduction of aseptic methods in obstetrics, sepsis in the new born being once a common cause of death.

A certain proportion of infants born die because of premature birth, or a feebleness at birth too great to support an independent existence. Alcohol, vice, syphilis and some other forms of inherited disease are factors of considerable importance in the production of these conditions. Again, there occur certain malformations of heart, intestines or brain which are incompatible with normal development or even with life. A certain number of infants perish from unavoidable accidents at birth. But these combined groups of the cases which might be called hopeless probably make up not more than 25 per cent. of the total.

The loss of infant life is, in large measure, due, not to inherited disease, malformations or congenital feebleness, but because of the failure to furnish the proper conditions not only for healthy growth, but even for life itself. These conditions are proper food, suitable housing and intelligent care. Most infants die primarily, therefore, not from inherent causes, but from accidental and, therefore, preventable ones.

The fundamental causes of infant mortality, as we may call them, are mainly the result of three conditions—poverty, ignorance and neglect. As direct results of poverty we have bad housing and overcrowding in cities, the necessity for mothers to work both late in their pregnancy and very soon after confinement, insufficient food to nursing mothers, improper food for children deprived of mother's milk and the inability to escape the consequences of bad surroundings, such as excessive heat in summer or cold in winter. Ignorance of the simple facts of hygiene and feeding in those to whom the care of such children is intrusted is a factor of immense importance, quite as disastrous in its consequences as is the use of bad milk or other improper food. Neglect may be due to intemperance or vice in the parents, but often is one of the results of poverty.

Infant mortality is much greater everywhere in cities than in the rural districts; but it is not the mere fact of city residence, but because in cities are combined all the other important conditions which cause a high infant mortality. The death-rate, therefore, does not depend on the size of the city, but on the hygiene, sanitation and the character of the population.

The following figures are from the U. S. Census of 1900, and give the death-rate of infants under one year per thousand births.

| | |
|---|---|
| New York State | 159.8 |
| New York City | 189.4 |
| Nashua, N. H. | 261.0 |
| Lowell, Mass. | 275.5 |
| Fall River, Mass. | 304.7 |
| Mobile, Ala. | 344.5 |
| Savannah, Ga. | 387.5 |
| Charleston, S. C. | 419.5 |

Density of population is, therefore, only one of many causes affecting the infant death-rate. Nashua, Lowell and Fall River are typical factory towns, but not large ones. A similar very high death-rate is seen in factory towns in England. The excessively high death-rate of the Southern cities is doubtless explained by the large colored population. While in general the figures above given point the truth, they should not be too implicitly believed. Conditions are certainly bad, but I do not think they are so bad as indicated, for the reason that in most of our cities and towns the registration of births is notoriously imperfect, while that of deaths is usually reliable.

All who practice medicine among children and all who study the question of infant mortality statistically are struck with the marked contrast between the death-rate of the children of the poor and those of the rich. Clay estimates that in England in the aristocratic families the mortality of the first year is 10 per cent.; in the middle class, 21 per cent.; in the laboring classes, 32 per cent. This difference in the infant mortality of the various classes is most striking in the case of acute intestinal disease. Halle states that of 170 deaths from this cause investigated in Graz in 1903 and 1904 there were 161 among the poor, 9 among the well-to-do, and none among the rich. It may not be true in adult life, but in infancy money may purchase not only health, it may purchase life, since it puts at the disposal of the infant the utmost resources of science, the best advice, the best food and the best surroundings for the individual child. To relieve, or even greatly to diminish, infant mortality these basal conditions of modern city life—poverty and ignorance—must be attacked.

### HOW THE CAUSES OPERATE

Having glanced at the fundamental or primary causes it is interesting in the next place to see how these operate in causing the deaths of infants. This would be a comparatively simple matter if the actual cause of death in each child under one year were known. But mortality records are not so complete as one could desire for such a study as we are making. The return made to the health department often covers only the last thing which happened to the child; the real causes which are back of this terminal condition cannot be ascertained from the records. Thus, a death is recorded as due to acute diarrhea in summer, but the facts very often are that a condition of malnutrition or marasmus with disturbed digestion due to improper feeding had existed for weeks or months before the final two or three days of acute illness, and were the real important factors. It is not easy from the classification made in the records of vital statistics to get at these fundamental causes which we are now seeking, for we wish to learn not what the last illness chanced to be, but why it was that the child succumbed to that particular acute disease.

Again, death certificates are of necessity accepted from a great number of persons who possess very indifferent qualifications for correct diagnosis, and many faulty ones are thus recorded from which one must be careful in drawing inferences. Bearing in mind, however, the foregoing points, much information can still be gained from a study of the causes to which death in infancy is ascribed in the records of our cities.

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[6] Brothers: Infant Mortality During Child-Birth and Its Prevention, 1896.

In Chart 5 are represented the most important groups making up the mortality of the first year in cities generally, combining the records of New York and Philadelphia for two years, Boston for three years and Chicago for one year, making a total of 44,226 deaths under one year.

Looking at this chart even casually one is at once impressed with the paramount importance of three groups: (1) the acute gastrointestinal; (2) prematurity, congenital debility and marasmus; (3) acute respiratory diseases. Together they make up 72 per cent. of the total infant mortality.

Let us glance at these groups separately. The group "acute gastrointestinal disease" is the largest and is so in nearly every large city in the temperate zone. The percentage of deaths from this cause is considerably higher in Chicago and Philadelphia than in New York, while in Boston it is lowest of all. The curve of diarrheal diseases is so important that it practically controls the curve of infant mortality. This group embraces acute gastritis, gastroenteritis, all forms of acute diarrhea, dysentery and cholera infantum and makes up the largest part of the immense summer mortality. It is these diseases which cause regularly each year the sharp rise in the death curve in July and August.

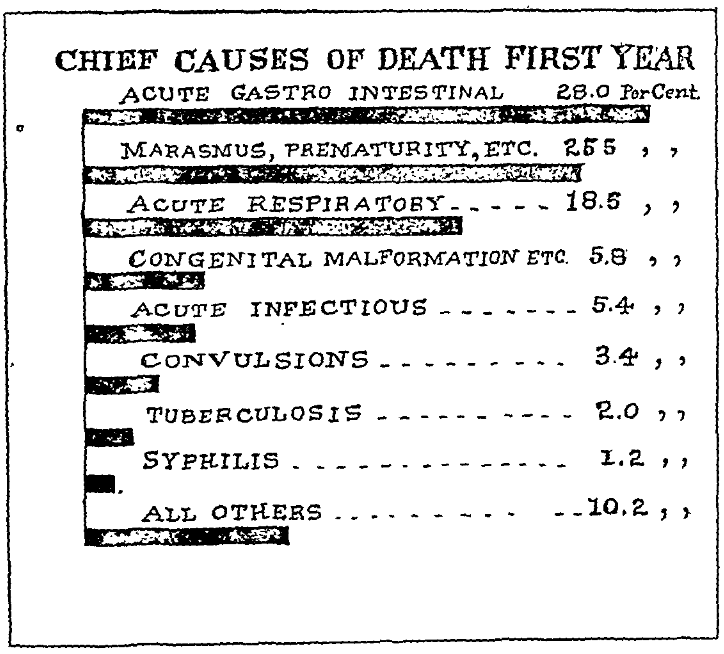

Chart 5.

Chart 6 shows the deaths in New York City for the past five years by the different months in infants under one year and in children from one to five years. The regularity of the summer rise is very striking. It is most acute during the month of July and most frequently the curve touches the highest point during that month.

In children from one to five years old, no such summer rise in the death curve is seen. At this age the highest mortality is in the late winter and early spring, usually the months of March and April. This is due in New York to the prevalence of acute respiratory diseases and acute contagious diseases, especially measles.

Turning now to the acute gastrointestinal diseases of the first year, we note that the most important underlying causes are three: atmospheric heat, method of feeding, city residence. The scope of this article does not permit of a discussion of the ways in which a high atmospheric temperature causes diarrheal diseases. The fact is too well known to need argument. There is the closest possible connection between the frequency and fatality of diarrheal disease and methods of feeding. Hope of Liverpool has shown that in 1,000 breast-fed infants under three months there were only 20 deaths from diarrheal disease; while of 1,000 bottle-fed infants under three months there were 300 deaths. Of 1,000 fatal cases of diarrheal disease investigated by the New York Health Department in 1908, only 90 had previously been entirely breast-fed. Newsholme gives almost identical figures for England, viz.: 10 per cent. of deaths from diarrheal disease in breast-fed infants and 90 per cent. in bottle-fed infants.

But that it is not artificial feeding *per se* which is to be blamed is shown by the relatively small proportion of deaths in the artificially fed that are seen among the well-to-do. Among the poor it is not simply the method of feeding which is responsible for the results, but the other conditions which are apt to accompany such feeding, such as bad surroundings, lack of maternal care (many of these children are illegitimate) and even gross neglect. Besides, we must reckon with bad milk or other improper food and, even when the milk-supply is good, bad methods of feeding due chiefly to ignorance.

It is my own belief that ignorance in feeding causes quite as many deaths as bad milk. But ignorance in matters of feeding is by no means confined to the poor. Even the best milk, badly handled in the home and improperly fed, is capable of doing great harm.

City residence is an important factor in the production of diarrheal disease. In proportion to the population there are three times as many deaths from diarrheal diseases in the cities of New York State as in the rural districts. But in some of the smaller factory cities, Troy, Cohoes and others, the mortality is higher than in New York City, showing that other unhygienic conditions may be even more important than density of population.

Prematurity is not classed separately in New York City or in Boston; but statistics for New York State for 1907 and 1908, Philadelphia for 1907, Chicago for 1906, Washington, D. C., for 1906 and London for 1907, combined, show that in a total infant mortality of 81,680 there were 13,757 cases, or 16.8 per cent., in which prematurity was recorded as the cause of death. This is, therefore, a factor of the first importance, since it is apparently the cause of about one-sixth the deaths of the first year.

In the second part of this great group, figuring in statistical tables as marasmus, malnutrition, congenital debility, inanition, etc., death is due in part to faulty hygiene and care, but still more to the manner of feeding. The manner of feeding is, therefore, a factor of the first importance in infant mortality. Artificial feeding is the chief etiologic factor in these first two groups, which taken together make up 53.5 per cent. of the total mortality of the first year.

The extent to which artificial feeding is practiced in New York City at the present time is a subject on which it is difficult to obtain exact information. From data collected through various agencies, the Health Department estimates that at present about 85 per cent. of the infants in New York are breast-fed and about 15 per cent. are bottle-fed. These data are gathered chiefly from the tenement districts and seem to me rather low for the artificially fed. I believe that, for the entire population, 18 to 20 per cent. would be nearer the truth.

The difference in the mortality of these two classes is most striking. The Health Department estimates that 85 per cent. of all infantile deaths are in those artificially fed. This statement is borne out by figures drawn from other sources. Tyson states that of 150,000 infantile deaths in Great Britain 75 per cent. were in those who were artificially fed. Kober states that of 54,047 infantile deaths investigated at home and abroad with reference to feeding 86.6 per cent. were artificially fed. In Munich the mortality in breast-fed infants is stated to be 15 per cent., while in bottle-fed infants it is 85 per cent. In Würtemburg the mortality of breast-fed infants is placed at 13 per cent.; that of those artificially fed at 42 per cent. The whole question may be summed up in a few words:

Breast-feeding requires but little experience and may be very successfully done even by those with a very low grade of intelligence and among the poor; but artificial feeding is not successful unless carried on with much intelligence and experience and at the same time with a certain amount of money to secure reliable materials, especially pure milk.

The child's nutrition, dependent largely on the manner of feeding, affects profoundly the mortality from every form of acute disease. Deaths attributed to convulsions are almost all of them in children artificially fed. It is easy to see, therefore, why it is that the kind of feeding is so important a factor in mortality figures.

Turning now to the acute respiratory diseases, especially bronchitis and pneumonia, we note that deaths from these causes form 18.5 per cent. of our infant mortality in the four cities considered. The percentage is considerably higher in New York and Chicago than in Philadelphia and Boston. That the percentage of New York is higher than other cities is, I think, to be explained in part by the greater congestion of our population. Overcrowding affects to some degree all diseases, but much more those of the respiratory tract—bronchitis, pneumonia and tuberculosis.

Recently an infant was admitted to my wards in the Babies' Hospital suffering from his third attack of pneumonia within a few months. It was learned that he was one of a family of ten, all living in a single room. Such overcrowding inevitably leads to a great increase in acute respiratory diseases in the winter. Fuel is scarce and expensive and doors and windows are kept tightly closed to keep out the cold. No such thing as ventilation exists. Then it is that all the evil effects of overcrowding are intensified. The spread of common colds and influenza is certain. When neglected or when proper care or treatment is impossible, these quickly lead to severe bronchitis and pneumonia. It is the infants who feel most keenly the effects of such unfavorable conditions, since they are continually subjected to them, besides being the most susceptible members of the household.

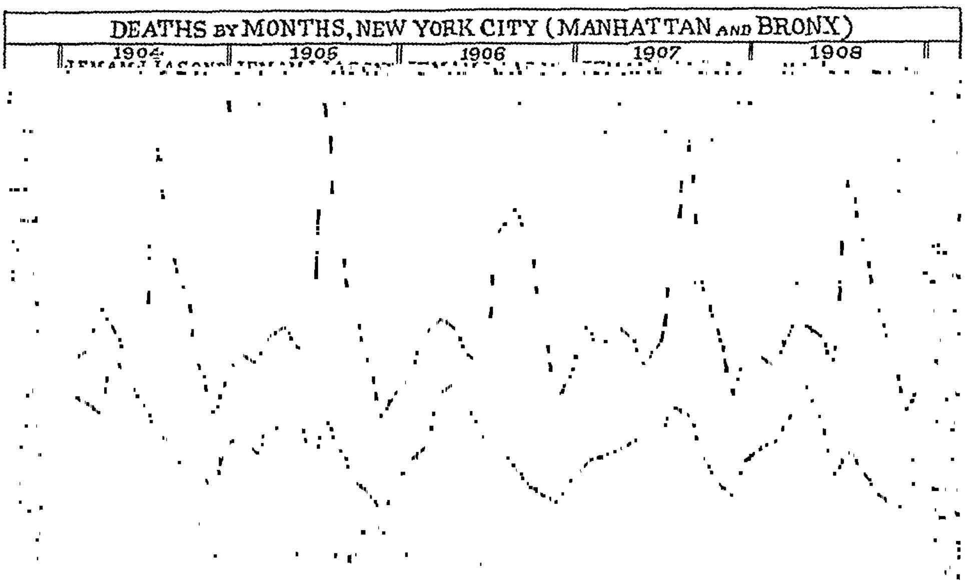

Chart 6.

The subject of influenza is one which deserves something more than passing mention. Ever since the general epidemic of 1891, it has prevailed regularly every winter season. Although it appears as an insignificant factor in mortality tables, it is one of major importance. In the Babies' Hospital during the past winter cultures were taken from throats of nearly all cases of severe bronchitis and pneumonia during life and from the lungs after death, and it was exceptional to find a protracted case of either of these diseases which was not complicated by influenza infection. Aside from its association with diseases of the lungs, influenza plays an important part in the production of diseases of the upper respiratory tract, the nasopharynx, ears, mastoid, etc.

The importance of acute respiratory diseases as a factor in infant mortality has greatly increased during recent years. Chart 7 gives a comparison between the mortality in New York City from bronchitis and pneumonia and that from diarrheal diseases since 1880. The curve for diarrheal diseases shows a steady decline, that for acute respiratory diseases quite as regular a rise. For this increase the prevalence of influenza is, I believe, largely responsible. For the first three years of this period the deaths from diarrheal diseases for Manhattan and Bronx were more than twice as many as the deaths from bronchitis and pneumonia. A gradual approximation of these curves is seen until in 1902 the deaths from acute respiratory diseases exceeded those from acute gastrointestinal diseases in 1903. If this tendency had continued, in a short time acute respiratory diseases would have taken first place in the infant mortality figures. During the years 1907 and 1908, however, the curve for intestinal diseases again rises, while the curve for respiratory diseases declines. The reason for this is not quite apparent unless it is that the gospel of fresh air which has been so vigorously preached is beginning to bear fruit.

It is my belief that the figures for tuberculosis given in the mortality tables of the different cities do not represent the part which that disease plays in infant mortality. The mortality figures of the Babies' Hospital for ten years show that in that institution 5.6 per cent. of the deaths under one year were from tuberculosis, or nearly three times as many as the proportion in New

York or in the four cities combined. This difference I believe to be only a consequence of more accurate diagnosis in the hospital. There is no doubt that much infantile tuberculosis is overlooked in general practice. The city figures show a very considerable number of cases diagnosticated "simple meningitis," nearly all of which are surely tuberculous. Again, the tuberculin tests employed in the hospital and the careful search for tubercle bacilli show many pulmonary cases to be tuberculous, which in outside practice are regarded as cases of simple bronchopneumonia. These facts have operated to reduce the percentage of hospital deaths from nontuberculous acute respiratory diseases to 15.3 per cent., while in the cities generally it stands at 18.5 per cent. The hospital figures I believe to be fairly representative of the frequency of tuberculosis in infancy, since in most respects other than those mentioned they are in substantial agreement with mortality figures of the city as a whole.

The prevalence of tuberculosis is closely associated with overcrowding and insanitary dwellings. The exciting cause in infants is usually exposure to adult cases of pulmonary tuberculosis. It is to the sick father, mother or other member of the household that the care of the baby usually falls when the healthy members of the family are away at their work. Such close contact usually leads to infection of the infant. To such exposure we have been able to trace definitely nearly one-half of the cases of tuberculosis in infants admitted to the Babies' Hospital in recent years, and it certainly existed in a very much larger number than we were able to demonstrate it.

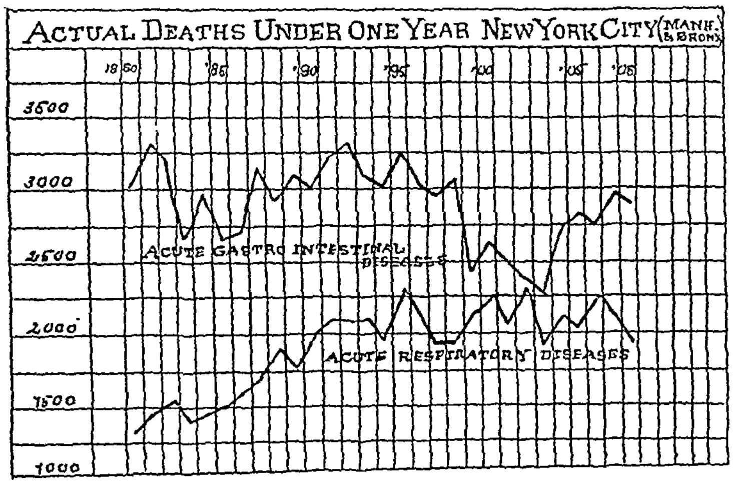

Chart 7.

Congenital malformations in most vital statistics include cases of chronic hydrocephalus as well as affections of the heart, intestines, etc. With these have been grouped injuries at birth and certain other conditions peculiar to the new-born. The proportion is about the same in the different cities studied as nearly as one can estimate by the classification adopted.

That acute infectious diseases play so small a part, 5.4 per cent., in infant mortality is somewhat surprising to one who studies the figures for the first time. Whooping-cough is altogether the most frequent one and makes up nearly half the total in this group. Next in order come diphtheria, measles and erysipelas, all others being relatively infrequent in the first year.

Convulsions are not classified as a separate cause of death in some of our cities, e. g., in Boston. They should not be in any. Many of the cases so classed belong in the acute diseases of the gastrointestinal tract, others are doubtless instances of status lymphaticus, tetany or tuberculous meningitis.

Syphilis is put down as causing 1.2 per cent. of the deaths. The figure is so nearly the same in all the cities that it ought perhaps possibly to be accepted. But syphilis is responsible for many deaths which go down in records as due to prematurity. Besides there are deaths ascribed to marasmus which are due to syphilis.

The group "all others" includes all nervous diseases except tuberculous and cerebrospinal meningitis and convulsions, diseases of the heart, liver and kidney, deaths by violence or accident and a large variety of others that scarcely deserve mention.

While in the four American cities studied there is a general agreement regarding the importance of the various factors, there are some interesting differences. The figures for acute gastrointestinal diseases are highest for Chicago, 32.9 per cent.; almost the same, 32 per cent., for Philadelphia; considerably lower for New York, 26.8 per cent.; lowest of all, 19.5 per cent., for Boston. Acute respiratory diseases cause the greatest number of infant deaths, 20.9 per cent., in New York; almost as many, 19.8 per cent., in Chicago; while in Philadelphia the percentage is only 15.6 and in Boston only 15.1.

Greater differences are seen between our American cities and London. In that city the percentage of acute gastrointestinal diseases is only 12.9, as compared with our average, 28 per cent. Acute respiratory diseases cause 21.3 per cent. of the deaths, compared with our average, 18.5 per cent. Deaths from acute infectious diseases are 9.5 per cent., against our average, 5.4 per cent.; while more striking still is the fact that tuberculosis is more than twice as common, the deaths from this being 4.3 per cent., against our 2 per cent. in American cities.

### THE REDUCTION OF INFANT MORTALITY

Any effort to reduce infant mortality must take into account not only the final or terminal diseases which are put down as causes of death, but the important underlying causes. Let us now take up the different groups of cases and see by what measures it is possible to lessen the death-rate from them.

To affect prematurity, its underlying causes must be discovered and removed. Syphilitic women should, of course, receive treatment during pregnancy. But even for other cases something can be done. Pinard in 1895 made observations on 1,500 women in France. In the first group of 500 who worked up to the time of their confinement, the average weight of the infant at birth was 3,010 gm. (6½ pounds); in 23.9 per cent. the children were born more than ten days before term. In a second group of 500 who spent ten days in retreat before confinement, the average weight of the infants at birth was 3,290 gm. (7¼ pounds); where they were in such a place for a longer period than ten days the average birth-weight was 3,366 gm. (nearly 7½ pounds). In the last two groups only 12.6 per cent. of the infants were born more than ten days before full term.

A period of rest to the mother before confinement has then a very direct and important influence on the completion of pregnancy and hence on the weight of the child at birth, both of which factors are important in relation to the child's vitality. This is a strong argument for prematernity hospitals or retreats. It also points to the necessity of some law which shall prevent women from working in factories for a certain period, from two to four weeks before delivery. But it is not in factories alone that women are obliged to work hard, sometimes up to the very hour of their confinement, and again within a few days after it, and this class also needs to be protected and relieved.

Again, there is urgently needed proper hospital provision for the care of premature infants. They are exceedingly difficult patients to deal with, requiring the most skilled nursing and medical care. Almost no provision is made for their care in existing institutions. In the homes of the poor nearly all die. This factor in infant mortality is one which has too long been ignored. In cases of true congenital debility the conditions and the needs are essentially the same as in premature infants.

To reduce the mortality from marasmus and acute intestinal diseases, the important causative factors, food, methods of feeding, summer heat and surroundings, must be kept in mind.

Among the poor and ignorant, breast-feeding is by far the most effective measure that we possess in preventing intestinal diseases in summer. Little or nothing has been done systematically in this country to encourage maternal nursing. France has taken the lead in this as well as in other organizations for the protection of infancy. As long ago as 1876 the importance of this subject was recognized and the *Société pour la propagation de l'allaitement maternel* was organized. Another society, called *Oeuvres des mères de famille* exists, whose object is to furnish employment at home to nursing mothers to relieve them from the necessity of leaving their infants to work in shops and factories.

While desirable for the greater part of the first year, maternal nursing is of special importance during the early weeks of life to enable the infant to make a start. England, Germany and Switzerland have had for many years laws forbidding the employment of women in factories for a certain number of weeks after and in some countries also before confinement. But such prohibitory laws are not effective unless they are supplemented by some adequate provision, public or private, for the relief of mothers whose necessities compel them to work under such circumstances. Such measures have been officially taken in Germany and Austria. Assistance by finding proper work at home, furnishing special food—milk, eggs, etc.—to nursing mothers among the poor would in our own city bring a large return. As yet this important subject, so far as I can ascertain, has received little or no attention in this country. In New York we have been so much engaged in the furtherance of the best methods of artificial feeding that means of promoting maternal nursing have not received due consideration. We must be on our guard lest with our day-nurseries and milk depots and other means we do not encourage artificial feeding and discourage maternal nursing.

In this connection a word should be said against wet-nursing as a regular practice where maternal nursing is impossible. While this method of feeding is sometimes necessary, it should not be employed when artificial feeding can be successfully conducted, as with the great majority of children of the well-to-do it can be. The general employment of wet-nurses tends, on the whole, to increase infant mortality rather than reduce it, owing to the excessively high mortality of wet-nurses' infants.

Next to maternal nursing should be placed good artificial feeding when breast-feeding is impossible, and this not only as a means of preventing acute gastrointestinal disease, but also that other group of cases quite as great, classed as marasmus, general debility, etc.

For good artificial feeding several things are necessary. The first is intelligence, which is more important even than the best materials. The next is a pure milk-supply, which must be carefully safeguarded until it reaches the home. The value of what has been done by the Department of Health in New York City and in other municipalities can hardly be overstated. But it is a question whether along these lines very much more can be accomplished in the reduction of infant mortality than is now being done.

General pasteurization of a city's milk is a procedure of doubtful utility, but there can be no question regarding the advantages of the home pasteurization of milk in summer, especially among the poor. So much evidence has already been adduced in its favor that it need not be discussed here. When no ice is available, sterilization by boiling is safer than pasteurization. The heating of the milk fed to infants in summer by one or other methods is now very general among the tenement population of New York and has been a factor of no inconsiderable importance in the reduction of infant mortality in the hot months.

Further improvement must come through better artificial feeding, especially among the poor. Ignorance and neglect are more difficult to reach even than a general milk-supply. But so long as it remains true that over four-fifths of the deaths in the first year are in children who are artificially fed, the direction which effort must take to bring about a change is clear.

By far the most effective agency is instruction in connection with the distribution of milk through the milk depots. Here the mother or some other representative of the family must report daily and must bring the child at stated intervals for inspection. Slight derangements of digestion are quickly brought to notice and can be met by appropriate changes in the food. When the food furnished is suitable in character, proper in quantity and sufficient only for the needs of twenty-four hours, there is not the chance of going wrong in regard to quantity [illegible] when the mother prepares the food [illegible] the milk depots I believe more can be [illegible] by any other plan yet devised. An extension of this work would, in my judgment, do more than any other means proposed to reduce infant mortality in summer. Its effect on the deaths for the remainder of the year is much less marked.

The outlook for a reduction in the mortality from acute respiratory diseases and tuberculosis is not so hopeful as for the groups just mentioned. Both tuberculosis and acute respiratory diseases are greatly increased by overcrowding and bad housing, two conditions very difficult to reach in all large cities, but especially so in New York. But much has already been done to improve them. Something can also be accomplished by teaching the importance of fresh air and removing the traditional fear of taking cold as a causative factor in these diseases. The radical remedy is the abolition of the old insanitary tenement and the erection of more sanitary dwellings. Thanks to the energy and efficiency of the Tenement House Commission, very much has been accomplished already along these lines. The removal of those with young children from the densely populated districts to the suburbs should be encouraged by every possible means.

Tuberculosis is not, as was once thought, an uncommon disease in infants. That it causes 5.6 per cent. of the deaths under one year in an institution like the Babies' Hospital is conclusive evidence on this point. Tuberculosis will not be materially reduced by sterilizing milk, for it is a very small fraction of the patients who acquire the disease in this way, but by removing adults or others affected with pulmonary tuberculosis from association with infants—certainly from their immediate care. It is only by the removal of these carriers of infection from the household that any great results can be obtained. This is a very difficult question when it is a parent, especially a mother, who has the disease.

The ordinary acute infectious diseases play so small a part that they may be passed over with a word. It is particularly whooping-cough from which infants should be protected and, next to this, measles, especially in the winter and spring season.

General hygiene is of the greatest importance, since it affects nearly all the foregoing diseases, but particularly the acute intestinal diseases of summer and the acute respiratory diseases in winter. Everything which touches the general healthfulness of a city influences infant mortality. It is these most susceptible members of the community who show most quickly the effects of adverse conditions and reflect most markedly improved conditions of living.

The most important causes of infant mortality may be divided into three groups, according to the degree to which they may be reduced:

1. Those but little influenced by treatment:
    - Malformations.
    - Extreme feebleness or prematurity (before the seventh month).
    - Certain accidents during birth.
2. Those capable of considerable reduction, chiefly through proper housing, isolation and medical treatment:
    - Tuberculosis.
    - Acute respiratory diseases—influenza.
    - Contagious diseases—whooping-cough, measles and diphtheria.
3. Those capable of very great reduction through proper feeding and care:
    - Acute gastrointestinal diseases.
    - Marasmus and inanition.
    - Prematurity, after seventh month.

For this last group, which is much the largest, there is needed the fullest and most exact scientific knowledge of the subject of infant-feeding and hygiene. It is in the medical schools that the work of instruction in these subjects should begin. We cannot expect to have well-taught mothers and nurses unless we have well-instructed physicians. What results could be looked for when the subject was so lightly regarded by even so representative a body as the Committee on Curriculum of the American Medical Association in 1905, which, in an "ideal medical course," considered ninety hours sufficient for the study of the diseases of children, exactly the same as the time allotted to electrotherapeutics?

At present there are hardly half a dozen medical schools in the country that possess an independent department of diseases of children. From most colleges a man may graduate without even passing an examination in this subject. It is only a few years since, even in the best institutions, anything like adequate instruction has been given. The older members of the profession who received their education before this time have been wont to regard matters of infant-feeding and hygiene as subjects which may be safely left to maternal instinct or the wisdom of the trained nurse.

The recognition of the claims of this department of medicine have been tardy, but there are signs that it is coming at last. It is encouraging to note that the Committee on Curriculum of the American Medical Association in 1909 allotted twice as many hours to the diseases of children as were given four years ago. In the whole range of preventive medicine I believe that there is no field which opens up wider possibilities than the means which may be employed to reduce infant mortality.

Note.—Other important articles in relation to the subject of *infant mortality are the following:*

Comby: Traité des maladies de l'enfance, i, 69.

Freeman, R. G.: The Reduction of Infant Mortality in the City of New York and the Agencies which have brought it about, Med. News, Sept. 5, 1903.

Graham, E. E.: Infant Mortality, The Journal A. M. A., Sept. 26. 1908, ii, 1045.

Hartley, Robert M.: An Essay on Milk, 1842.

Kober: President's Report on the Committee of Social Betterment, 1908.

McCleary, G. F.: Infant Mortality *and Infants' Milk Depots*, London, 1905.

Newsholme: Jour. Hyg., 1896.

Phelps, F. B.: A Statistical Study of Infant Mortality, 1908.

Stowell, W. L.: Infant Mortality, Past and Present, New York Med. Rec., May 22, 1909.

Tyson: Journal of State Medicine, September, 1904.

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## ABSTRACT OF DISCUSSION

Dr. Koplik, New York: I am sure we appreciate Dr. Holt's statistics showing the inaccuracy of the statement that with all our work we had not succeeded in reducing the mortality in infants in the last fifty years. Some years ago Flügge undertook to determine whether sterilization of the milk and other advances in infant feeding had reduced the mortality, but he found that the birth-rate in many cities was so badly recorded that he had to leave it an open question. Dr. Holt has shown that even in New York 15 per cent. of the births are unrecorded and we are unable to make any calculations on that deficiency. Any one who has been in the hospitals and seen the children brought in will agree that there has been a great reduction in infant mortality by careful feeding. By a careful *recording of births and deaths we will be able to know* just what work we are doing. I am glad to see that at least there is some encouragement for all of us. Mr. Phelps *tried* to prove that there had been absolutely no change in the mortality the world over within the last fifty years in infants below one year of age.

Dr. E. E. Graham, Philadelphia: A year ago I read a paper on infant mortality in this Section, and Dr. Holt's conclusions to-day tally with mine of a year ago. All interested in infant mortality will find that there has been a marked reduction not only under the age of one year but also under the age of five years. It is gratifying to me to see that Dr. Holt has brought out the point that infants die because they are not nursed by their mothers. A great fault of pediatric teaching is that while our efforts have been largely directed to the modifications of cow's milk we have given but little attention to the best means of procuring for children their natural food. America is behind other countries in providing pregnant women with proper facilities for obtaining proper food and care. As long ago as 1876 a society was established in England which sees that the pregnant woman is properly fed, clothed and housed, and when necessary she is *taken* care of for the year following her confinement. The mother takes care of the baby and it lives. In France there are restaurants where good meals are supplied three times a day to pregnant women. If we are going to reduce this enormous infant mortality we must see that the mother is able to nurse her baby. It is interesting to note the difference in deaths between the legitimate and the illegitimate children. The illegitimate die two for one of the legitimate. In this country a woman who *has had an illegitimate* child, as a rule, is turned into the streets just as soon as she is able to leave the hospital. Statistics show that a large number of illegitimate children die during the first two months of life. If the mother were kept at the hospital for the first three months of the child's life it would tide the child *over the period* when it is most likely *to die, and it is possible* that the association of mother and child during those first three months would tend to make the mother more willing to do things for the child that she might otherwise be unwilling to do. I think it a very conservative statement that deaths from diarrheal diseases in the summer could easily be reduced 50 per cent. by seeing that these children get proper milk and are visited by competent nurses and have proper improvements made in their surroundings.

Dr. E. Lackner, Chicago: I wish to describe to this Section a movement founded in Chicago this summer. The aid society has established local stations all under central control. Each of the local offices is under the charge of a physician. We have tried to pattern after two organizations in Paris, the first, where the mother is encouraged to nurse her baby, and the second, where artificial food is furnished to children. Of course, there is a whole program to be carried out. Each local station has a visiting nurse. She must be a very capable person, for much tact is required, and she must watch the children carefully, and report to the physician in charge of the office. The consultation is free as to the care of the child, not medical advice but simply advice as to how to take care of the child. This organization is based on those described by Keller. The main point is that the mother is urged through the nurse, through the doctor and by every one possible, to nurse the child, and if she has to work, then she is paid to stay at home and nurse her baby. In Germany there are more illegitimate children than there are here. In a German city of a population of 200,000 they had in one year 1,500 illegitimate children under the care of the organization. The mother who is a good mother is not requested to call at the consultation very often, but the poor or negligent mothers are asked to report at the office frequently. Then, at this bureau, if the physician orders that the child be taken to the hospital, the child goes. Whatever in the city is of a charitable nature is consolidated and there is a central organization that has entire control and the children will be disposed of in whatever way the doctor feels is best. The mother, for the last one or two months of her pregnancy, if for reasons necessary, is taken into the lying-in hospital and is encouraged to nurse her child and she is kept in the hospital until the child's health is established.

Dr. H. W. Cook, Minneapolis: Is there any reliable estimate of the number of women in New York who do nurse their children? We know that a larger and larger number of women are not nursing their children through the first year, so that the large mortality among artificially fed children in comparison with breast-fed infants may give an exaggerated idea of the dangers of artificial feeding.

Dr. C. G. Kerley, New York: Dr. Graham states that in this country the mother with an illegitimate child is sent out of the hospital with the child as soon as possible. That is not the case in New York. There are three institutions in New York that are capable of caring, and do care for, several thousand illegitimate children.

Dr. Henry L. Coit, Newark, N. J.: It seems to me that each of us should consider it a duty to encourage and, when possible, to urge the nursing of infants by their mothers and repeat the work that is being done in Europe by the establishment near the homes of the poor of consultations for nursing mothers. The main question before us, however, is that of statistics. The great difficulty in obtaining reliable mortality statistics is emphasized by the fact that the registration area for vital statistics in the United States includes less than half the population. The study of epidemiologic records, together with the statistics on acute gastrointestinal disease indicate that milk is the largest causative factor both in morbidity and mortality among infants, the importance of which cannot be overestimated, nor to the study of which can be applied too much patience or judicious detail. Reliable information as to the incidence of various causes in the total mortality should be gathered, and it seems impossible to get this information from the government or in any way except as Dr. Holt has laboriously obtained it in his own city. A concerted effort in which every section of the country is represented should be organized. There should be some central medical body to direct this work and to secure in every large center a statistician to work out these problems.

Dr. Frank S. Churchill, Chicago: In the last chart, in the two curves showing the death rate from respiratory troubles and gastrointestinal troubles, in the last five years there is a steady rise in the death rate among babies in New York. Happening for four or five successive years, it would seem as if there must be some cause for that and I wish Dr. Holt would tell us if he knows the cause.

Dr. J. W. Van Derslice, Oak Park, Ill.: It seems that we have far more reason for congratulation on the lowering of the death-rate in view of the change from a rural to an urban population. I think we have not yet learned how to live in the cities. While in European countries they have the classes and the masses, we have nothing of that kind here, and I think this step of ours toward paternalism is the first great step toward establishing such a state of affairs in this country. As to the care of the mother and child when sent from the hospital, it is true that these institutions do take care of a small number, but it is hard to get the women to go to these places. The great point is the development of the maternal instinct in these women; this would save more children than anything else.

Dr. Alfred F. Hess, New York: In looking over about thirteen hundred cases among the Russians in New York, I found that 80 per cent. of the mothers nurse their children through the first three months. Only 5 per cent. did not nurse their children at all. It was interesting to note, too, that most of these women were delivered by midwives and were not urged to nurse their children by physicians. I was struck by the fact that the mortality was not particularly low, although I have not closely investigated these statistics. I had an opportunity to study these children and children in another dispensary where the mothers do not nurse their children so frequently, and I could not see that there was any great difference in the mortality.

Dr. C. F. Tenney, Toledo: An effort has been made in Toledo to obtain certified milk owing to a number of cases of typhoid traced to the milk supply. We finally succeeded in getting certified milk at a reasonable price. Clean milk is a most important thing in artificial feeding, and we were able to get it.

Dr. E. Holt, New York: I think that the change in figures in these statistics is due to the fact that they were actual mortality figures and not relative ones. The rise in the mortality from diarrhea in the years referred to by Dr. Churchill may be explained by the increase in population. For the last five or six years we have had a very careful watch kept over the milk supply. While I think that the milk is exceedingly important, when we have done all we can through the milk we still have a large problem on our hands. Much is due to ignorance. One advantage in breast feeding is that a very stupid woman may do it well, but a stupid woman cannot feed an artificial food and do it well. We must not only do all we can to help those who cannot properly feed their children, we must teach all phases of infant hygiene. The problems of infant mortality are very difficult and they are of immense importance. I do not believe that we are going to succeed in solving them merely by securing clean milk. Poverty and ignorance are causative factors of great importance. Mothers must be taught how clean milk is to be fed if we accomplish very much. As to the statistics on breast-fed infants in New York City, 85 per cent. of all the children are breast fed, 15 per cent. are bottle fed, but these figures are taken largely from the hospitals, so probably 80 per cent. breast fed and 20 per cent. bottle fed would be nearer the truth, but the fact remains that 85 per cent. of the deaths occur among artificially fed children.

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**Nodules on Endocardium.**—In the heart of a 4 months old child dead of bronchopneumonia were found a large number of wart-like nodules on all the valves and the septum of the foramen ovale. Microscopic examination of the nodules showed a delicate substratum of connective tissue supporting a layer of epithelium. There were no signs of recent inflammation and no round cells. Cardiac dulness in life was not increased and the heart sounds were normal.—Jewesbury, in *Proc. Royal Soc. Medicine*, December, 1909.

# A PLEA FOR THE ESTABLISHMENT OF AN AMERICAN ASSOCIATION FOR THE PREVENTION OF SOCIAL DISEASES *

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Though I do not treat venereal diseases as a rule, I have undertaken this study because, in my work as an internist and family physician, the great necessity of a general awakening to the importance of this subject in the United States has been forced on me from year to year with greater and greater emphasis. In many of our large cities no provision is made for the treatment of venereal diseases, and in some cities patients suffering from these diseases are specifically forbidden admission to any of the existing hospitals.

Furthermore, the present paper does not pretend to be exhaustive, as it is based chiefly on personal observations, impressions and convictions, and not on library work.

As to the amount of venereal diseases in the United States we can only guess. It is fair to assume, however, that the percentage of the population so infected does not vary greatly from that which obtains in Germany. According to a recent article by Bierhoff, the number of prostitutes in New York, 36,000, is proportionately as great as in Berlin, and the amount of venereal diseases may be assumed to vary directly with the amount of prostitution. Even in Germany an exact estimate is out of the question; but the dispensaries of the workingmen's compulsory insurance give statistics the like of which does not exist in any other country of the world, because at the present time those suffering from venereal diseases are not only treated free in these dispensaries, like all other cases and with the same consideration, but also receive a like indemnity if they are thereby rendered unable to work.

The larger the city, the higher the percentage of venereal diseases, because of the greater amount of prostitution, the lower moral standards resulting from the crowding of the poorer classes in insanitary dwellings, the difficulties in the way of early marriage (30 per cent. of the total number of births in Stockholm and 50 per cent. in Budapest are illegitimate), and the gravitation of the idle and criminal classes toward the centers of population. Berlin shows the highest figures in Germany, and Professor Blaschko's estimates for Berlin are as follows:

Annually infected with venereal diseases:

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| Soldiers | 4 to 5 per cent. |
| Salesmen | 16.5 per cent. |
| Waitresses | 13 to 30 per cent. |
| Students | 25 per cent. |

On any single day about 100,000 people are under treatment for venereal diseases in Germany, according to an estimate made from a canvass on April 30, 1900.

Of the 12,000,000 insured in the German Empire, about 750,000 are infected annually at a cost to the insurance treasury of 6,000,000 to 7,000,000 marks; and to this should be added, in estimating the real cost to the country, the time lost by the acute attack and by sequelæ, and by the shortening of life, by blindness, etc., etc.

Professor Blaschko has estimated that of every 100 men between the ages of 20 and 30 in Berlin 20 are infected with gonorrhea and 2.4 with syphilis each year. (Professor Linden's estimates for Hanover are about a sixth less.)

If a young man practices sexual intercourse for ten years before marriage in a large city, the chances are that he will have had gonorrhea two or three times, and the chances are about one to four that he will have had syphilis. Citron stated in Budapest last month that 10 per cent. of the wet nurses in Dresden were syphilitic, and, though they had no symptoms, 75 per cent. of their children had, and that these women without symptoms could spread the disease.

Only the family physician who has learned to recognize the protean manifestations of venereal diseases among his patients has an idea of the ever-increasing extent of this curse of civilization. I need only mention the brides who go to the gynecologist's table during the first years of their married life, the chronic invalids, the childless homes, the asylums for the blind and deaf and dumb, and the host of tabetics, hemiplegics, paretics, and mental and physical cripples who owe their afflictions directly or indirectly to venereal diseases.

A volume might be written—yes, many volumes have been written—on the extent and importance of venereal diseases, but I pass over this topic with the preceding brief but suggestive allusions, in order to have more time for other considerations.

This pandemic should be met in two ways—treatment of the existing cases and prophylactic efforts to limit the spread of the disease. The former is included in any comprehensive grasp of the latter problem.

The danger of any individual's contracting a venereal disease increases directly with the number of different persons with whom the person has sexual relations; therefore the prostitute is more liable to these diseases than any one else, and consequently prostitution is the principal source, the chief factor, in the spread of venereal diseases.

Prostitution cannot be abolished because it exists in response to the demand of the uncontrolled natural sexual instincts of the race—because it is the result, not the cause, of the immorality of our large cities.

The only way to abolish prostitution is to remove the demand for prostitutes. This implies education of the public to high ideals of self-control and to a knowledge of the physiologic and pathologic facts involved, and such an improvement of the average intelligence and physique as to make it possible for the masses to be guided by cold reason. This, all will admit, is too utopian to have practical value at the present time.

The individual, on the other hand, may be brought to this ideal condition if the training is begun early enough.

I believe that this part of the education of our young people is usually put off far too long, even when it is given, and it is often omitted altogether. The individual, I say, may be taught the meaning of the sexual impulse and the various expedients for keeping it under control—baths, clothing, exercise, choice of associates, reading, etc., etc. He may be convinced that there is no physiologic necessity for sexual intercourse before marriage, and that his organism will suffer in no way from indefinitely protracted chastity; he may learn that syphilis is not as easily and certainly cured as is generally believed; that marriage should not be thought of for four years after infection; and that the certainty of a cure in any individual case cannot be demonstrated without an autopsy; he may further learn that gonorrhea is not a trivial malady "like a cold in the head,"

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* Read at the Fifty-ninth Annual Session of the Medical Society of the State of Pennsylvania, Sept. 28, 1909.

but a serious infection, which in any individual case may become general, or may prove to be incurable, and which may embitter his whole life and the lives of those most dear to him; he may learn further that illicit intercourse cannot be freed from the dangers of these infections. When he has learned these things, if he has sufficient strength of character, he will take no chances.

But not all can be so educated, and many have not the character to profit by such enlightenment. We may not say to such, "We have given you the facts; if you suffer, it is your own fault," any more than we may let a man drown because he disregarded our advice and got into deep water; first, because we recognize the obligation of the strong to help the weak, and, second, because the results of weakness and stupidity are not confined to the individual, but, in ever-increasing circles, spread disease and disaster throughout the body politic.

The state or municipality has the same moral obligation and the same financial interest in the control of venereal diseases as in the control of any other controllable disease.

The protection of the interests of every individual increases as the sum total of contagious diseases is diminished.

Various factors which I need not mention have hampered any frank consideration of this problem in America. Individuals, notably Dr. Prince A. Morrow, President of the American Society of Sanitary and Moral Prophylaxis, have raised their voices from time to time, and several societies have been organized during the last few years, and are doing good work, as the Pennsylvania Society for the Prevention of Social Diseases, and societies in New York, Detroit, Baltimore, Chicago, Indianapolis, St. Louis, Spokane, Portland, California, Jacksonville, Denver, West Virginia, and possibly by this time Georgia, Texas and Connecticut. If, however, we would study the practical value of the varied efforts for the control of venereal diseases, we must turn again to the older countries of Europe.

We hear a great deal about the police control of prostitution for the purpose of limiting the spread of venereal diseases. Let us consider briefly the methods employed with the arguments for and against this system, its value and limitations.

In several European cities it has been tried and abandoned, as in London, Christiania and Copenhagen, and, although the partisans of control point to statistics showing increase of venereal disease in the years following the abolition of police supervision in London and Christiania, many of the most careful students of the question assert that the curve of the amount of venereal diseases shows waves of variation independent of all extraneous influences, that, e. g., the amount of venereal disease in London and Christiania has fallen as low at times since the abolition of control as it ever was under the control régime. Christiania was twenty-eight years under control and has been twenty years without control.

Hence we are once more disappointed in our recourse to statistics.

In Stockholm, where the problem has received much careful consideration, and where a royal commission has been at work on the question for the past five years, I found the police control of prostitution apparently dying a natural death, the number of prostitutes under supervision diminishing from year to year, in spite of the fact that the number of prostitutes in the city is probably keeping pace with the city's growth. There are probably 4,000 or 5,000 prostitutes in Stockholm at the present time, and only about 250 are under control.

In Berlin, as in many other German cities, there exists, on the contrary, an energetic and growing system of control. It is probably nowhere better done than in Berlin, where I was again and again astonished at the intelligence, scientific thoroughness and humane consideration shown in this work.

It is found in all large cities where control is in force that the women who are most likely to remain under control are the older ones (I saw several over 50 years of age in the examining rooms in Berlin) and a large proportion of these have gone through syphilis, and in the tertiary stage are liable at any time to develop contagious lesions; and they have had gonorrhea so often that it, too, is liable at any time to light up afresh from some smoldering focus, so that no amount of control can make them safe; while the younger women, chafing at the restrictions of the police, seek to elude them by frequently changing their residence, or by keeping up an ostensible occupation. Venereal disease in these younger women is more amenable to treatment, and at the same time the younger women are more important factors in the spread of disease because of their greater popularity; therefore any system that would bring this class under medical supervision would be of inestimable benefit.

Any attempt at police control of prostitution without the European system of registration of all inhabitants with compulsory notification of all changes of residence, occupation, etc., would be futile, and therefore I consider police control of prostitution impracticable for our American cities. Perhaps this is not a misfortune, for it is not yet demonstrated that better results cannot be obtained by social organization against this social evil. Many of us feel that the organization against tuberculosis is productive of great good to the human race. There is even more reason to expect immediate results from efficient organization against venereal disease, for, although the number of cases of venereal diseases rivals the number of cases of tuberculosis, yet infection in the former disease is much more easily controlled.

National organizations against venereal disease exist in Germany, France, Austria, Denmark, Italy and Hungary. In Sweden, although as yet no organization exists, the physicians have done much in the way of the publishing of tracts and the giving of lectures to young men and to young women of different classes.

The organization in France and Belgium is nine years old; that in Germany, seven years. The oldest organization for this purpose in the world is the "Teleia" of Budapest (literally translated, "Venus"). This organization is fifteen years old, has 400 contributing members, and gets some help from the city. For many years it attracted little attention and could accomplish but little; now it is most active and rapidly growing. The president is a nobleman very much interested in the work. The Teleia holds meetings, gives instructive lectures to various classes of society and issues tracts of warning and advice; but its chief activity is a clinic for the free treatment of venereal diseases, where about 8,000 new cases were treated last year. They have different rooms for gonorrhea and syphilis, with different staffs consisting of a chief and four to six assistants each, and different hours for men and women. They give individual, up-to-date treatment, and command the respect, admiration and obedience of their clientèle, who drop enough money in the box for voluntary contributions to pay for the necessary new instruments. Prostitutes are not treated if recognized as such (as this is forbidden by the laws of Budapest to any but the regularly appointed police physicians), but no unnecessary questions are asked, the object of the society being to combat the venereal diseases in every way possible. In addition to treatment at the dispensary, medicines are given, much good advice, verbal and printed, and sometimes even condums are furnished. Married victims are tactfully directed to send their husbands or wives as the case may be. Sometimes 150 cases are treated in the evening of a single day, keeping the staff busy from 6 p. m. to 9:30. The evening I visited the Teleia I saw Dr. Emödi ably, courteously and sympathetically supervise the treatment of seventy-one cases. All patients who have been treated by the Teleia are directed to report again whenever they have the intention of marrying, and they generally comply with this request; they then receive a careful and thorough examination, including massage of the prostate, with microscopic examination of the strippings, and Wassermann's test in appropriate cases. As a rule they do not marry until they receive the permission of the chief. Those who announce their intention of marrying as soon as possible receive especial attention from the first.

Hungary has the compulsory workingmen's insurance similar to Germany, with the same broad-minded regulations as regards venereal diseases. There is no compulsory registration of venereal diseases in either Germany or Hungary.

The National Hungarian League Against Venereal Diseases is at the present time rather inactive, being hampered by the attitude of a certain Hungarian cabinet minister.

Let us now consider the aims and accomplishments of the German Society for the Combating of Venereal Diseases—the D. G. B. G., as they call themselves (*Deutsche Gesellschaft zur Bekämpfung der Geschlechtskrankheiten*). Founded seven years ago with a membership of physicians, statesmen and laymen of all walks in life, both male and female, its membership now numbers 5,000. The annual dues are three marks, and all members receive the bi-monthly publication of the society. There are more than thirty branch societies scattered through Germany, and, in addition, many departments of the government, insurance associations, dispensaries, philanthropic societies, associations of workingmen and of students, cooperate with the society in bringing about desired reforms in the laws of the country, and in the regulation of insurance and eleemosynary institutions, and in spreading the saving knowledge in all strata of society. Three national congresses have been held, at which many of the most important questions in regard to this work have been most ably and thoroughly discussed, such as the criminal and civil relations of venereal diseases, the reform of the methods for the control of prostitution, the compulsory registration of venereal diseases, individual prophylaxis, etc., etc.

The practical attainments of this society have been many and important, as, for example, the abolition of all discrimination against venereal diseases in the laws regulating compulsory insurance, the increase in the number of beds for venereal diseases, and the creation of special wards for these diseases in many of the hospitals, the doing away with the careless and irresponsible method of treating these diseases which formerly prevailed, and the putting of them on the same plane as any other diseases, the overcoming of the popular prejudice against being treated in these departments, and the improvement of the methods of the sanitary police for the control of prostitution, the introduction of chairs for venereal diseases in the medical departments of the universities, and questions on the same in the state examinations, the establishment of lectures on venereal disease before the students of other departments of the universities in each semester, the introduction in most states of lectures on sexual hygiene to advanced students of preparatory schools, seminaries, etc., and to graduates of these schools on the nature and danger of venereal diseases, and evening lectures for parents on the sexual education of their children. The German press has also been brought into line for the cause. All the foregoing has been accomplished, and at the present time the society has presented and is working for a new imperial law according to which prostitution shall not be punishable so long as it does not offend against public order and decency, and the harboring of prostitutes shall not be punishable so long as it is not in the form of brothels, and is free from any share in or extortion of the earnings of the prostitute, while at the same time the conscious or irresponsible spreading of venereal disease is to be strenuously prosecuted.

Besides the publication of the *Mitteilungen*, the society aids in the publication of the *Zeitschrift für Bekämpfung der Geschlechtskrankheiten*. It has also published circulars of warning with appropriate differences for the youth of both sexes, of which 5,000,000 have been distributed (4,000,000 at the cost of the society). These *Merkblätter* describe briefly the venereal diseases with their many dangers to the infected and to their associates, give sound information in sexual hygiene and suggest prophylactic measures for such as will take the risk of illicit sexual relations, warn against the effects of alcohol in undermining good resolutions and weakening the will power, as well as predisposing to infection, emphasize the importance of early treatment, and warn most emphatically against quacks, teaching also the necessity for all who have ever been venereally infected to obtain the assurance of a specialist that they are cured before renewing sexual relations and before marriage.

The society has also published, at nominal prices, a number of different papers dealing with different phases of the question and written particularly for different classes of society, and prizes have been offered for such papers and tracts. Traveling speakers with a collection of wax models, pictures and tables, give lectures in the various towns, and the exhibit is loaned to larger cities which furnish their own speakers and demonstrators, just as our tuberculosis exhibits are used. The society is also directing investigations into various mooted questions and social evils, thus collecting the materials for future reforms.

One cannot but be filled with admiration at the accomplishment of this association and at the energy and ability of its management. The president is Prof. A. Neisser of Breslau, the vice-president, Prof. E. Lesser of Berlin, the general secretary, Dr. A. Blaschko of Berlin.

All who have given much thought to this subject agree that the only efficient means of fighting these diseases consists in the education of the public, the establishment of free dispensaries for the treatment of venereal diseases, with every possible inducement to get the infected to accept the treatment thus offered, the repeal of bad laws, and the adoption of new ones which work only for the desired end.

The laws of Norway, after twenty-eight years of control and many years of experience without control, are generally regarded as the most efficient yet devised, and they are certainly worthy of study. They are briefly as follows:

Venereal diseases must be reported like all other contagious diseases, but with initials of the patient instead of the full name. The probable source of the infection, if ascertainable, must be given on the notification blank, and whether male *or female*, the individual alleged to be the source of the infection is summoned to appear before the sanitary police officer. Informed that he or she is suffering from a contagious disease, he is asked to submit to an examination by the physician of the department. This examination cannot be insisted on. If accepted and venereal disease is found, free treatment is furnished if the individual desires. If the examination is *refused, the individual* is directed to bring a certificate from an approved physician that he is well or under treatment. This demand must be complied with, and if a venereal disease is reported the subject must sign a form running something as follows:

> Dr. N. N. has told me that I am suffering from (name of disease) a contagious disease, he has fully explained to me the dangers of this disease with regard to myself and my associates, and its probable duration, and has made it clear to me that I must remain under treatment until he gives me a certificate to bring to this office that I am well and no longer a possible source of contagion. I know that if I have sexual intercourse during this time, whether I transmit the disease or not, I am liable to be punished under Section —— of the Laws of Norway.

This paper, duly signed, is *filed* with the *doctor's* certificate. If the signer is known to have sexual intercourse thereafter, he is arrested and prosecuted. During the past year twelve, mostly men, were arrested and two were punished.

A monetary indemnity may be legally demanded in Norway by a man or woman who has been thus knowingly exposed to venereal infection. The fact of infection from the accused does not need to be established.

In several cities, as in Stockholm and Breslau, a useful expedient is employed against gonorrheal ophthalmia, which consists in sending by return mail a printed warning to all parents of the lower classes, on receipt of a birth registration, which in these cities is immediate.

For some years it has been my personal conviction that every physician is under the moral obligation of seeing to it that no patient of his, through ignorance, exposes his bride to gonorrhea or syphilis, and that no female patient marries a man who is ignorant of the dangers of venereal disease, long after an apparent cure. No difficulties are encountered in carrying this into practice.

From the foregoing, it is evident that the scientific method has been introduced into the consideration of these problems. We have learned that if we are to handle the problem of prostitution we must study the prostitute. Scientific observation, not *theory* or sentimentality, even with the best of intentions, must be our guide.

The word "prostitute," in the mind of a sanitary inspector like Inspector Penzig of Berlin, after many years of personal contact, connotes something very different from the word "prostitute" in the mind of the average layman, pastor, or even settlement worker.

Inspector Penzig says prostitutes are such because they are degenerate, because they belong psychically to *the criminal class, that they cannot be counted* on to react to new and favorable environments as psychically normal individuals would, and that therefore any efforts at voluntary sanitary control as advocated by the D. G. B. G. will fail. He points to the statistics of Copenhagen, where recently voluntary medical control was substituted for the compulsory control of the police with results far below what was anticipated.

He claims that the number of Berlin prostitutes seeking treatment at the dispensaries of the D. G. B. G. is very small; in fact, insignificant. He asserts that this shows a lack of intelligent appreciation on the part of the prostitutes; that they are, in *fact, "penny-wise and pound-foolish"* as is usual with the mentally deficient, and therefore choose to shun the doctor who may even temporarily interrupt their business. On the other hand, the able leaders of the D. G. B. G., after years of observation, study and discussion, are convinced that voluntary sanitary control, especially if combined with such laws as those of Norway, can be made in time a more efficient weapon against venereal disease than any form of police control. This shows us that many important questions remain to be settled, and that they can be settled only by organized efforts, by scientific methods, and by taking advantage of the experiments in different directions wherever made.

Chaos has often resulted heretofore in the consideration of these subjects from a mixture of motives. It is obviously impracticable to try to consider the questions of social hygiene from a legal or a moral standpoint. Let the home missionaries, the settlement workers, the juvenile and criminal courts, do their utmost with the unfortunate and the degenerate. Let the police make what efforts they may in the interest of decency and order; with that we are not here concerned, nor is our object to safeguard promiscuous sexual relations from the dangers of venereal infections. Our aim is, first, to protect the health and happiness of innocent women and children, our sisters and our daughters; second, to relieve as much as possible the physical and mental sufferings of our fellow-beings in a spirit of broad philanthropy that brooks no moral or social distinctions, and, third, to conserve and to raise the physical and economical coefficient of our population, male and female, and to this end I urge the organization, from our present local societies, of an American Association for the Prevention of Social Diseases, with branches and dispensaries in all our cities.

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# HOW AN ENLARGED AND MORE UNIFORM NATIONAL HEALTH ADMINISTRATION MAY BE SECURED

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That suspicion of improper interference on the part of the federal government, when through its power over interstate commerce it has sought to exercise authority in even an advisory manner over public health matters, is still a bogey with the extreme advocates of a state's rights policy. This fear of unwarrantable meddlesomeness with the affairs of a state will always hinder a salutary national administration of affairs pertaining to public health of the United States.

This distrust of federal supervision in public health affairs is seemingly not confined to any particular part of the country. At one time it was thought that the states lying south of Mason and Dixon's line were peculiarly sensitive in regard to federal interference; but it is apparent to-day that Massachusetts, Ohio and Illinois and other northern states are much more jealous of the prerogatives of state sovereignty in sanitary matters than are the southern and southwestern states.

The action taken at the Chattanooga convention in 1905 by the health representatives of the gulf states, and the subsequent complaisant view of the subject of federal control of maritime quarantine methods for the entire gulf section of the southern United States, as expressed in Congress, brought out the fact that these states yielded very cheerfully their constitutional rights over waters adjacent to their seaports. It is doubtful, however, if this federal statute would stand the test of adjudication by the Supreme Court of the United States should any of the officials of a state affected by the provisions of the law choose to contest it, for this statute is not uniform in its action, but is a piece of special legislation for a section, not for the entire seacoast of the United States. For instance, the Mexican gulf coast of the United States is placed by national statutory enactment under direct maritime sanitary control of the national government, a condition which does not apply—without the consent of the several states interested—to the Atlantic ports north of the capes of Maryland, or to the seaports on the Pacific. But even with the existing federal quarantine law as applicable to the southern gulf seaports, it is nevertheless contended by distinguished jurists that sanitary authority or control over wharves and docks is still vested in the state, and that it is possible under state laws for state health officials to prevent the landing of passengers or freight on sanitary grounds, even though the vessel may have a federal permit to enter a harbor. This is due to the fact that the powers not specifically granted by the Constitution to the federal government are reserved to the states.

Though eminent jurists have tried to define the scope of authority possessed by the federal government in restraining the spread of disease between the states, and in certain instances within the state, when interstate traffic is affected, yet the general government apparently hesitates to insist on the enforcement of federal sanitary regulations if they conflict in the slightest degree with those of the state health authorities, or to supersede the constituted health authority of a state by federal management, except at the request of the governor of the state.

The various federal acts for the prevention of travel of persons sick with quarantinable contagious diseases, although drawn very carefully, receive not infrequently a severe jolt at a state line.

A few years ago, at one of the annual conferences of State and Territorial Health Officers with the Surgeon-General of the Public Health and Marine-Hospital Service, a state health officer, to the surprise of many, declared that even with the control of interstate commerce lodged with the federal government, it would not be possible to transport a person sick with a contagious disease—smallpox for instance—through his state against his protest or against the disapproval of the constituted health authority of his state; and furthermore, that the sick person could be stopped and detained at the state line. The legality of this position was not disputed by the chairman. Not many years ago a Syrian leper was in the position of a shuttlecock between the battledores of several states who would neither care for him themselves nor allow the federal health authority to transport him to a place of refuge where he could be sent to his own country; and the Public Health and Marine-Hospital Service was powerless to act in the matter, since any federal health authority possesses only the powers conferred by Congress, which in its turn is circumscribed by the Constitution.

The brilliant success achieved by Gorgas in exterminating yellow fever and inaugurating a model system of sanitation in Cuba—a success productive of so much commercial benefit to the people of North America—could never have been attained under a form of government which permitted provinces to dispute the central authority. Supported by a military organization controlled by a commander whose early military training had included hygiene and sanitation, it was possible with system and persistence to conquer an enemy which for over one hundred and forty years had brought personal grief and commercial loss to Cuba and to the United States. While a system of sanitation similar to that adopted in Cuba has vastly improved the health conditions on the Isthmus of Panama, the results have not been as speedily attained, because the form of government at Panama has made it more difficult to carry out the regulations than in Cuba. Until the municipality of New Orleans surrendered to the federal government all sanitary control of the city in the yellow fever epidemic of 1905, the Public Health and Marine-Hospital Service could do no more than advise and suggest, but when that service was given unrestricted power to deal with the situation its management of the epidemic had splendid results.

At present the national government possesses only limited authority over the sanitary affairs of a state, and therefore is unable to pursue an aggressive policy for the benefit of the people as a whole. While the general government has control over the navigation of streams within state lines, its power to restrict the dangerous pollution of those waterways is not without question.

Prof. Irving Fisher not long ago, in a very instructive and interesting report to the National Conservation Commission on the subject of "National Vitality, Its Wastes and Conservation," points out some of the crying demands of the times for improving the national vitality: "The national government should exercise at least three public health functions; first, investigation; second, the dissemination of information; third, administration." The first two conditions can be very readily brought about, as the general government commands both able men and financial resources; but the bar to an efficient superintendence of sanitary matters by the general government is the restraint imposed by the Constitution.

How, then, can this difficulty be overcome? The will of the governed must always be the supreme law, and authority for the federal government to supervise sanitary matters must come from the people through the states, by each state asking for an amendment to the Constitution to this effect. This will permit without question the enactment of laws by Congress carrying ample power for the exercise of authority sufficient to cover every detail of a sanitary administration.

When this is accomplished the general government will be in a position to remove a reproach constantly made against the nation, namely, that more pains are now taken to promote the health of farm cattle than of human beings.

It is easy for writers on sanitary subjects to say what the general government should do, but few who discuss the proposition ever consider whether the general government could legally do the numerous things which have been proposed.

Professor Fisher says:

> The national government should prevent transportation of disease from state to state in the same way as it now provides for foreign quarantine and the protection of the nation from importation of disease by foreign immigration. It should provide for the protection of the passenger in interstate railway travel from infection by his fellow passengers and from insanitary conditions in sleeping-cars, etc.

No sensible person will dispute the wisdom and soundness of Professor Fisher's argument. But how can such action be taken within state lines without the consent of the state? In no other way than by that just suggested. It is not believed that there will be any objection raised by the several states to ratifying an amendment to the federal Constitution by which the Congress shall have power to supervise and control all matters affecting the public health of the citizens of these United States, whereby the life, health and physical discomfort of the citizen is or may be endangered. When this is accepted and Congress shall pass sanitary laws framed on a broad basis of general necessity the national health officer or authority, whether departmental, commission, or the present Public Health and Marine-Hospital Service, can then be held responsible for any fault in the administration of health matters. Then and not until then can a system free from conflict of authority be hoped for or secured. It is not desired, however, that the arguments advanced or the opinions expressed shall be understood as recommending that the health police powers of a state shall be materially abridged, still less entirely superseded, by the general government, but rather that some of the defects in the present system of administration may be remedied and the awkwardness of many existing conditions corrected.

# PARAGONIMIASIS OR PARASITIC HEMOPTYSIS

## REPORT OF AN IMPORTED CASE IN CALIFORNIA

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*Paragonimus westermanii*, *Distoma westermanii*, *Distoma pulmonis* or *Distoma pulmonale*, as the fluke which causes this disease has been variously termed, is parasitic in the lungs of man in Japan, China, Corea and Formosa, where in some districts a considerable proportion of the inhabitants are said to be infected.

Ward[1] reports the discovery of this parasite in the lungs of a dog from Ohio, and comments on the importance of the recognition of any cases that should occur on the American continent. He notes the character of the parasite and of the eggs, and describes the disease. We have made liberal use of his article.

Stiles[2] and Sir Patrick Manson and A. E. Shipley[3] similarly give a detailed account of the parasite and the nature of the disease. To these three articles the reader is referred for a description of the fluke, its geographical distribution, etc.

Pathologically the parasite gives rise to tumor-like cysts which are situated near the lung periphery. The cysts contain the flukes and their eggs, and masses of Charcot's crystals, and communicate with the bronchi by fine openings through which the eggs and the crystals reach the exterior in masses of mucus and blood. Similarly cysts have been found within the liver, peritoneum, mesentery and the cerebral hemispheres.

The number of eggs discharged in a single period of twenty-four hours from a patient who has suffered thirteen years from the disease has been estimated to be not less than twelve thousand. In water an oval ciliated embryo develops within the egg some time after it escapes from its host. The future development of this embryo and the manner in which an individual becomes infected are not at present known, though it is surmised that the drinking-water is at fault.

Symptomatically these flukes lead to recurrent attacks of hemoptysis, to a chronic cough, and to a rusty mucoid expectoration. These symptoms strongly suggest chronic pulmonary tuberculosis, with which the disease for a time was confused; and it is not improbable that a number of Orientals in this country who are believed to have tuberculosis are really suffering from this fluke infection.

Though during the continuance of the disease the patients commonly suffer from malaise, the accidental rupture of a large blood-vessel by the destruction of the lung tissue and a general anemia from the repeated losses of blood seem to be the only dangers to be feared. Some patients appear to recover from the disease, this recovery being considerably aided by removal from the infected district. A general lowering of the bodily health from disease or dissipation has considerable influence in increasing the virulence of the symptoms.

The physical signs which are associated with this disease are surprisingly few, and in no way characteristic, and it is only by an examination of the sputum that a diagnosis can be made.

In view of the rarity of this disease on the American continent (Stiles refers to one imported case having been recognized in Oregon) and the importance of its recognition from the public health standpoint, we deem it our duty to report the following case:

*Patient.*—Inone, aged 35, came to California from Japan six years ago, since when he has worked in the California fruit orchards. His immediate complaints are soreness in the lower part of his neck, which is associated with some distress in swallowing, and intense headache, most marked in the temporal regions. The spitting of blood which, he states, is also present, is regarded by him as of secondary importance, and has only lately acquired a significance in view of the distress in swallowing, and the fact that a relative died from cancer of the esophagus.

*History.*—The family history is irrelevant with the exception of the one relative alluded to. The patient has drunk at times immoderately, but does not use tobacco or opium. One year ago he had an attack of gonorrhea from which he completely recovered. There is no history of a venereal sore or any syphilitic manifestations. Thirteen years ago he had chills and fever in Japan. He was treated and recovered, and has had no recurrences. He has had no other bed-confining illnesses.

*Present Symptoms.*—A.—Coughing up of Blood: This began when the patient was 12 years old, when he coughed up about a cupful. He continued to suffer from hemoptysis on an average, two to three times a month. At that time he began to drink immoderately, and these attacks became more frequent. When twenty he commenced his army service of three years, during which time he took no alcoholic liquor, and his attacks became less frequent and intense. When he left the service he again dissipated, and the coughing up of blood again became worse. At that time he went to a Japanese country doctor who told him that he was suffering from distoma. Shortly

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1. Ward: Med. News, lxvi, 236.
2. Stiles: Osler's Modern Medicine, i, 536.
3. Manson, P., and Shipley, A. E.: Allbutt and Rolleston's System of Medicine, ii, 860.

afterwards his sputum, instead of looking like pure blood, began to be mixed with "spit." Since that time his condition has remained about the same, it becoming worse when he drinks, and improving when he becomes temperate.

B.—Soreness Associated with Swallowing: The pain in the lower part of the neck and distress in swallowing came on a few months ago. The symptoms have been a source of great anxiety to him, and he has lost 15 pounds in weight in the last few months. The patient associates these facts.

C.—Headache: This is also of a few months' duration. It is very intense, usually most marked in the temporal regions; on other occasions the inferior occiput is the seat of the most severe pain. These headaches are worse by day than by night, are fixed and deeply located, he thinks. There are no shooting pains, nor does he suffer from neuralgic pains in other parts of the body.

The patient's appetite is good and bowels regular. He becomes somewhat short of breath on walking up hill, but in ordinary work he suffers no distress. He sleeps well and does not get up at night to pass urine.

*Examination.*—The patient is compactly built, and fairly well clothed with muscle and fat. The expression of his face is heavy and dull. The pupils are equal in size and react briskly to light and accommodation. There is no nystagmus, and no diminution of the field of vision. There is no abnormality of lid or eye muscle movement. The conjunctivæ are watery. The eyegrounds are normal; so are the teeth, mouth and throat. Breathing through either nostril is normal. The patient hears well with either ear closed. There is considerable tenderness on superficial pressure over the region of both frontal sinuses, in the upper temporal region, and in the tissues just below the occiput. Both supraorbital nerves seem unduly sensitive. No thickening can be made out anywhere. There are no glandular enlargements in the neck, axillæ, above the elbows or in the groin. There are no venereal sores or scars present on the penis. The testes are normal.

Thorax.—Respiratory System: The patient has a broad, well-set up chest. The supraclavicular regions are somewhat hollow, but equally so. The two sides move equally; vocal fremitus is everywhere normal. On percussion the note over the left lung is slightly subtympanitic from the apex above to the level of the nipple in front, and the midscapular region behind. There is a normal extent of lung resonance, and normal increases on both sides during inspiration. A few sibili are audible underneath the left clavicle. Elsewhere the expiratory murmur is normal, and the vocal resonance presents no abnormalities.

Cardiovascular System: There is marked epigastric pulsation of the right ventricular type, but no other cardiovascular pulsations. There are no palpable thrills. The apex is located just outside the midclavicular line in the fifth intercostal space. The right border cannot be determined; the left border is not unduly arched. The heart sounds are pure and regular in time and character, and 80 to 90 to the minute. The pulse is regular in time and character, the peripheral vessel-walls are somewhat thickened and tortuous. The systolic blood-pressure equals 145 mm. Hg, the diastolic 100. It is the same on each arm.

Abdomen: The abdominal wall is soft; no intra-abdominal tumors are palpable. The liver is not enlarged. The kidneys are not palpable. The spleen is enlarged, extending an inch below the rib margin, its edge is hard and thick, and above its dulness reaches the eighth rib. The Murphy maneuver causes no discomfort.

Extremities, Etc.: There are no abnormalities to be found in the skin, muscles, bones and joints. The reflexes, movements and sensations are normal.

Esophagus: Dr. Fehleisen had found some resistance to the passage and withdrawal of a medium-sized probang about eight inches from the teeth. The head of the probang in this position gave rise to a distress similar to that complained of by the patient. On esophagoscopic examination a small area about the size of a ten-cent piece was found with small heaped-up islands of epithelium between which red fissures ran. The fissures were evidently covered with a thin layer of epithelium as the cotton used to swab this area remained quite dry. The opportunity was taken to swab this area with a 5 per cent. silver nitrate solution. This entirely relieved the patient, and since then a full-sized esophageal probang has been passed without distress. It seemed at first as though this area might be indirectly of distoma origin, but in view of the apparent rapid cure this seems unlikely.

Examination of Chest by Radiography: Postero-anterior chest and apex radiograms show no abnormalities. The tree-like branching of the lower pulmonary fields are well marked, but no more so than in many healthy people.

Sputum: When the patient is not drinking or taking medicines the sputum amounts to about two ounces in twenty-four hours. It presents a peculiar glassy jelly-like appearance, and is very viscid. Scattered through it are red or brownish-red areas which look like colored pneumonic sputum. Occasionally small quite fresh coagula of blood are seen here and there. Though it is, we believe, generally understood that the fresh sputum should always be microscopically examined, there can be no doubt that this is frequently neglected by general practitioners, and even in some laboratories and colleges. Owing to such neglect the ova had in this particular case hitherto escaped recognition.

Microscopic examination of the colored portion shows a large number of pus cells, many red blood corpuscles, many large multinucleated cells which contain a large quantity of brownish pigment. In every field two or three eggs of the distoma can be seen. They are oval, brown in color, have a double outline, and at one end a lid is plainly visible. Within the egg are granular areas and very small rounded bodies which look like fat droplets. Many such little bodies are also present outside, it appearing as though some of the eggs had been ruptured. Microscopic examination of the clear portion shows mucous strands and leucocytes, no eggs being visible. The stained fixed film shows the presence of many cocci and bacilli, but no tubercle bacilli. The eggs are no longer recognizable as such. The color of the colored patches of sputum is due to red cells and the pigmented cells, and not to the eggs present.

Urine: This amounts to 40 to 50 ounces in the twenty-four hours, has a specific gravity from 1020 to 1030, and contains no sugar; a trace of albumin is present. Microscopically a few red blood cells and a few leucocytes are to be seen, but no casts or eggs.

Stools: These are normal in appearance; the food is well digested, and no eggs are to be found.

Blood: The hemoglobin is 80 per cent, the red cells 4,800,000 per cubic millimeter, the white cells 8,000, of which the polynuclears are 70 per cent., the large lymphocytes 8 per cent., the small lymphocytes 20 per cent., and the eosinophils, 2 per cent.

Cerebrospinal Fluid: In view of the headache and the fact that the parasites occasionally invade the brain, a lumbar puncture was made. The cerebrospinal fluid was under pressure of 200 mm. of water. It was reduced to 150 by removing half an ounce. The portion removed was clear, and was normal in every respect. The tapping in no way relieved the headache.

*Treatment and Its Effect.*—The treatment of the esophageal symptoms has already been alluded to.

Headache: In view of the old malarial history, the presence of an enlarged spleen and of very sensitive supraorbital nerves, 5 grains of quinin in acid solution were administered three times a day. This quickly led to a return to normal of the spleen, but had no effect on the headache. Potassium iodid was then administered in 25-grain doses in milk, three times daily. Considerable improvement in the headache resulted. Ten grains of aspirin three times daily were then prescribed, with the result that the headache completely disappeared but returned when the drug was stopped. The scalp tissues remained very sensitive. The patient was then instructed to massage the hypersensitive regions vigorously for several minutes on several occasions during the day. This led to a disappearance of the hypersensitiveness, and the patient became quite free from his headache.

Pulmonary Symptoms: During the time the patient was taking quinin the sputum greatly diminished, and it was only with difficulty that one could obtain specimens for examination. The patient regarded himself as cured of the pulmonary complaint during this time. While the potassium iodid was being taken the sputum returned, became of a disagreeable odor and more copious than it was prior to the patient's taking any drug, and had very much the appearance of muddy water. Aspirin had no effect on the sputum.

The discovery of this case was reported to the board of health, and the patient is, in the meantime, at work in the fruit-orchards free from his headache and distress in swallowing, but spitting up small amounts of ova-containing sputum, though again taking quinin.

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# THE VIRULENCE OF OLD CULTURES AND SUBCULTURES OF BACILLUS MALLEI *

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The virulence of pathogenic bacteria is to some degree dependent on or modified by their environment, and, as the result of experiment, it is known that the virulence of such organisms may be raised by their passage through animals. On the other hand, it has been stated that the virulence of some is lost in a comparatively short time when cultivated on artificial media.[1] Different strains of the same organism may differ to a marked degree in this respect, and conclusions in regard to a class of organisms should not be based on results obtained unless the organisms are from several sources.

*Bacillus mallei* is an organism handled frequently by many laboratory workers; consequently any fallacy in regard to loss of virulence in old cultures should be corrected, since, if one strain has proved virulent, all should be regarded as such unless proved to be otherwise.

At the Boston Board of Health laboratory, work is constantly being done with *Bacillus mallei*, 722 specimens having been examined for the diagnosis of glanders during the past three years, of which 237, or nearly 33 per cent., were positive.

The outfit, consisting of a labeled tube containing two sterile swabs, together with a card with blanks for data, may be found at any of our culture stations, and after use it may be returned to the laboratory by the regular station delivery, or, as more frequently happens, it is brought or sent by the veterinarians.

On arrival, from 3 to 5 c.c. of sterile water is added to the swabs, which are thoroughly rubbed up, most of the material being left in the water. A plant is then made on potato, and a smear is made in order that we may have a guide as to dosage.

Two pigs are inoculated with this suspension: one with 1 c.c., the other with 0.5 c.c., unless there are quantities of organisms or streptococci present, when half that amount is used. A number of freak results from these inoculations have been reported.[2]

Mallein is also made at the laboratory and furnished free to the veterinarians of the city. It is made by inoculating *B. mallei* in glycerin broth and allowing it to grow at 37 degrees C. for six weeks after the formation of a pellicle, which occurs in about a week or ten days after inoculation. This is then tested by making transplants on agar slants and potato, and from this growth a suspension in sterile water is made and guinea-pigs are inoculated. No mallein is used unless there is a typical Strauss reaction from these inoculations. Failure to obtain this reaction is rare.

After testing, the mallein is boiled for 5 or 6 hours, and 0.5 per cent. phenol is added, and it is then ready to filter and bottle. We handle the pigs and suspected material, using the ordinary laboratory card and technic.

A statement[3] in regard to the rapidity with which the virulence of subcultures of *B. mallei* is lost was noticed late in October, 1909, and on November 2 a series of inoculations was begun, using a culture recovered from a pig inoculated for the diagnosis of glanders during our routine work, it being the first one to be obtained after the article was read. On the third day a transplant was made on potato and also an aqueous suspension with which a pig was inoculated, using 1 c.c. Transplants from potato to potato and inoculations have been made every two or three days, and now we have reached the twenty-sixth subculture, and the virulence is as great as it was during the early generations. In this series one pig was inoculated with the eleventh subculture which failed to give the Strauss reaction, and another pig was inoculated giving a typical reaction, the non-reacting pig being kept under observation. Six days after inoculation a small tumor was noticed at the inoculation site, and ten days later there was a swelling noticed on the left forefoot, followed a few days later by a similar swelling on the right forefoot.

At autopsy Dec. 23, 1909, there was found a tumor in the omentum and also a submaxillary tumor, from both of which typical organisms were obtained, and typical cultures were obtained from the omental tumor. The swellings on both feet had completely disappeared and there was no Strauss reaction.

On December 23 two pigs were inoculated, one with the eleventh subculture which had been on potato since November 21, and the other with the twelfth, which had been on potato since November 23. Both gave a typical reaction.

From these few instances it seems justifiable to draw the following conclusions:

1. That in glycerin broth *B. mallei* live and retain their virulence for at least two months, even when kept at body temperature.
2. That a culture of *B. mallei* may be virulent after growing on potato for at least a month.
3. That some strains of *B. mallei* retain their virulence through a great many subcultures on artificial media.

I wish to express my thanks to Dr. F. H. Slack and Miss E. Marion Wade for aid and criticism.

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**The Cerebrospinal Fluid in Acquired and Inherited Syphilis.**—P. Ravaut describes the physical, bacteriologic, chemical and cytologic findings in the cerebrospinal fluid of the syphilitics examined in the Broca and Saint-Louis hospitals in Thibierge's service, at Paris, and discusses the conclusions from comparison of these findings with the clinical course. His article appears in the *Revue mensuelle de Médecine interne et de Thérapeutique*, June 15, 1909, and teaches the lesson that any judiciously interpreted modification of the cerebrospinal fluid in an individual with acquired or inherited syphilis should be regarded as a manifestation of the disease like any other symptom, and justifies energetic treatment controlled by the clinical course of the disease and the findings with lumbar puncture.

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* Read before the Society of American Bacteriologists, Boston, Dec. 28, 1909.

[1] Bevan and Hamburger: The Occurrence of Glanders in Man, THE JOURNAL A. M. A., May 16, 1908, l, 1595.

[2] Arms, B. L.: Some Freak Results from Animal Inoculations, Am. Jour. Pub. Hyg., xix, No. 3.

[3] Marshall, Chas. E.: The Beginnings of Life from the Viewpoint of a Bacteriologist, 11th Rep. Mich. Acad. Sc., 1909.

# EMBOLISM OF THE SUPERIOR MESENTERIC ARTERY

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Embolism of the mesenteric vessels is of unusual interest to the surgeon because of (1) its comparative rarity, (2) the extreme urgency of its symptoms and imperative demand for an early diagnosis, which is frequently difficult and often impossible, and (3) the difficulties attendant on its surgical treatment, which to a greater degree than most surgical problems demand that nicety of judgment and precision of technic acquired by only a few in the field of surgery. Considering these facts. I feel justified in reporting the following case:

*History.*—Male, aged 26. Family and previous history negative except for an attack of rheumatism two years ago. His general health had been excellent and patient had followed his occupation as locomotive fireman every day. On the evening of September 30, after coming home from his work the patient ate a hearty supper, after which his bowels moved normally and without pain. A few minutes later he was siezed with sudden cramping, agonizing pain which he described as originating in the epigastrium, but so intense in nature as to be indescribable and involving the entire abdomen. In the absence of his family physician I was summoned and reached the patient within thirty minutes of the onset of the pain.

*Examination.*—Physical examination revealed the characteristic peritonitis facies with evidence of extreme suffering—face pinched and anxious, both knees drawn up, skin relaxed and clammy, abdomen already tympanitic and very sensitive to pressure, both recti rigid. The clinical picture was that of an intestinal perforation or severe intra-abdominal hemorrhage. The temperature was subnormal, pulse rapid and thready and pupils widely dilated.

*Diagnosis.*—There was absolutely nothing in the previous history of the patient that would indicate previous appendiceal trouble, gastric or duodenal ulceration or gall-bladder involvement. From the condition of the patient, the character, severity and distribution of pain, the diagnosis lay between fulminant appendicitis, gastric or intestinal perforation and severe intra-abdominal hemorrhage such as would occur in acute hemorrhagic pancreatitis. Because of the age and previous history of the patient it was thought that the former condition was the most probable. The family was advised of the serious nature of the trouble and the probable necessity for early surgical interference. The patient was made as comfortable as possible by the administration of a hypodermic of morphin, the application of an ice bag and interdiction of everything by mouth. Next morning I saw the patient in consultation with his family physician. He had vomited frequently during the night, had been very restless and had suffered intensely despite the 1/2 grain of morphin he had received hypodermically in the evening. His pulse was 150, temperature subnormal, skin still relaxed and clammy. abdomen greatly distended and universally tender. No peristalsis could be made out and paralytic ileus seemed present. The lips were cyanotic, breathing shallow and hurried. At this time dulness in the flanks could be determined which changed with change in the position of the patient. Subjectively the patient stated that he felt better than during the night, though the findings showed he was *in extremis*. The family physician readily agreed that the outlook was extremely grave if not hopeless, and from the rapid progress, general collapse, dulness in the flanks and cyanosis we were inclined to consider the case one of acute hemorrhagic pancreatitis.

*Operation.*—Immediate operative measures were urged but the family were inclined to temporize because of the patient's subjective symptoms. Later in the day permission was given to operate but in the interval his failure had been so rapid that it was deemed useless. Vomiting had been almost continuous, large quantities of brownish liquid being ejected at frequent intervals. Notwithstanding the hopeless outlook a surgeon from a neighboring city had been summoned by wire and preparations for an immediate operation completed. Death occurred, however, before his arrival, thirty-one hours after the onset of the first symptoms. There was vomiting with the initial symptoms, but the vomitus was not blood-stained at any time. There was some tenesmus for the first few hours but very little passed from the bowels. There was no diarrhea and no blood in the bowel discharges.

*Autopsy.*—Permission to hold a limited autopsy was gained nine hours after death; not, however, until an undertaker had tapped the abdomen and injected embalming fluid. The undertaker stated that he removed by aspiration about two quarts of blood-stained fluid from the abdominal cavity. On opening the abdomen the parietal peritoneum was found to be smooth and glistening, the liver pale, yellow and smooth, not enlarged, the gall-bladder normal in size and appearance, containing about two ounces of bile. The bile ducts were patent and normal in appearance. The pancreas was intact and showed no evidence of rupture. The omentum was congested but the peritoneum of the stomach, bladder and large intestine showed no involvement. The entire small intestine from the duodenojejunal to the ileocecal junction was black and gangrenous and so friable that efforts to put the mesentery on the stretch in order to determine the presence or absence of previous limited infarctions were unsuccessful, the mesentery and gut separating like wet paper under the slightest tension. The superior mesenteric artery was occluded at a point between the colica media and colica dextra. That portion of the duodenum supplied by the gastro-duodenalis was not involved.[1]

Because of the free anastomosis of the mesenteric vessels through the arches of the vasa intestinæ, serious interference with mesenteric circulation is extremely rare. The gravity of the condition is usually in proportion to the extent of mesentery and intestine involved, though very small hemorrhagic infarctions frequently result in localized necrosis and perforation. The suddenness with which vascular changes of this character are initiated is also a factor. Thrombotic occlusion and interference with the circulation by adhesions or mesenteric inflammation offer a better prognosis because their more gradual development permits a readjustment of the circulation. The suddenness of the shock and insult in mesenteric embolism, however, is so overwhelming that there is no time for circulatory readjustment and a paralytic ileus promptly develops.

If occlusion of the superior mesenteric artery occurs, the integrity of that portion of mesentery and intestine supplied by it can be maintained only by anastomosis of the gastroduodenal and inferior mesenteric arteries. When it is recalled that the blood, in order to reach this portion of the intestine through anastomosing channels, must pass for a considerable distance through a plexus of very small vessels, the grave danger to the integrity of that part of the intestine deprived of its natural blood supply is at once apparent. Embolic occlusion of the trunk of the superior mesenteric practically always results in gangrene of the entire field of its distribution. Embolic occlusion is most frequently due to septic processes, endocarditis, aortitis, valvular and aortic vegetations. In this case it was assumed to originate from an endocarditis following rheumatism.

Mesenteric infarction is the least frequent of endocardial embolic phenomena, constituting but 1 per cent. (Edwards). Its features were first noted by Virchow. Jackson, Porter and Quimby collected 225 cases from the literature showing a mortality of 94 per cent. The onset is usually sudden, with intense colicky abdominal pain, vomiting and collapse. The vomitus may be bloody (a feature that has not been satisfactorily explained), or even fecal. Diarrhea is said to occur in 40 per cent., frequently bloody. Early death from collapse before symptoms of peritonitis develop is the most common termination, the lowered vascular tone due to primary shock being so great that there is little or no absorption of septic products, though peritonitis sometimes develops from gangrenous perforation in infarctions involving small areas.

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[1] Since preparing this report I have read an excellent article by Crouse (Surgery, Gynecology and Obstetrics, December, 1909) in which a case with similar pathologic findings is recorded.

As there is nothing in the symptomatology to indicate the extent of infarction, the abdomen must be opened before this can be determined, and even in these few favorable cases where a probable diagnosis can be made early, portions of intestine that are apparently healthy but with a circulation seriously compromised may be left which will later become necrotic and cause the patient's death, or the primary shock may be so extreme as to make immediate operation extra hazardous and the surgeon may be persuaded to wait for a reaction that, as a rule, never occurs. There have been instances of spontaneous recoveries just as there are records of operative recoveries, but the mortality is dishearteningly great. If on opening the abdomen the entire small intestine is seriously involved, operative measures are obviously useless.

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# TUBERCULOSIS OF OS SACRUM TREATED WITH BISMUTH PASTE

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It is probably too early to determine the exact value of bismuth-paste injections in the treatment of tuberculous sinuses, but the favorable reports of many cases treated with this paste in the last two years suggest that at last we have an agent that is really curative. Only a few years ago a patient with a psoas abscess or tuberculous sinus of the hip or sacro-iliac joint was usually doomed; but now such patients are being repeatedly cured by injections of bismuth paste after the method originated by Dr. Emil Beck of Chicago. The following case is interesting in that it shows the cure of a condition which heretofore was almost hopeless; also it shows the severe poisoning which may occur from the bismuth. The injections were used altogether over a period of eighteen months.

The patient, Mrs. F. B., American, in January, 1906, at the age of 21 had a hard fall on the ice, striking on the buttocks. Three days later pain developed over the left sciatic notch and kept the patient in bed for two months. After that she got up and was treated for sciatica. Sometimes she would feel pretty well, then again she would be in bed for a week or two. I saw her in December, 1907, and found a tuberculous abscess over the left sacroiliac joint. She went to Spokane, where the abscess was opened and drained. Iodoform emulsion was injected daily. The patient stayed there a month, the abscess discharging profusely. She came home much emaciated and having night sweats. In February, 1908, I operated, exposing the left sacroiliac joint according to the method of Schede. The whole left buttock was undermined by the abscess and the gluteal fascia covered by tuberculous granulations. The abscess extended to, but not through the capsule of the hip-joint. I removed a sequestrum from the sacrum, carious bone from the joint and scrubbed out the granulations. The wound healed nicely, leaving a sinus down to the sacrum.

The patient improved rapidly, and about March 14 I began injecting the bismuth paste into the sinus three times a week. Her night sweats stopped and she gained greatly in strength. The sinus would not heal and the patient, becoming discouraged, went to Rochester, Minn., to consult the Mayos. They continued the injections twice a week. She stayed there three months, and during this time gained twenty pounds. She came home in October with the sinus still discharging. In November she began to show signs of chronic bismuth poisoning and the injections were stopped. There was a black line along the gums; the molar teeth became loose; the patient lost weight and vomited frequently. In December she was very sick for a week with violent vomiting and diarrhea. The sinus closed in the latter part of this month. She now developed symptoms of an iliac abscess. The thigh became flexed and the patient was unable to straighten out her leg. There was marked lordosis and a hard tender mass formed in left iliac region. In the early part of February, 1909, I operated again, going down just internal to the anterior superior spine of the ilium and found pus on its internal surface, beneath the iliopsoas muscle. Mixed with this pus was about an ounce of the bismuth paste. It had been there at least ten weeks and was apparently unchanged.

The vomiting after this operation was terrific and almost caused death, lasting eight days. I put a drainage-tube down to the bottom of the abscess and injected sterile petrolatum every other day for the next month. The symptoms of bismuth intoxication subsiding, I again started to use the bismuth cautiously, using it once a week and keeping the tube in to insure free drainage. Later the tube was withdrawn as the sinus kept open without it. All during the summer of 1909 the patient lived in a tent in a pine forest, enjoying good health and coming in once a week for her injection. In October, examination showed both sinuses solidly closed and no tenderness or pain to be found. The patient said she felt better than she had for years. She is now doing her own housework and is apparently cured.

To one who has seen such patients suffering from tuberculous bone disease undergo operation after operation and finally die, such a result as this is, indeed, remarkable.

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# HUMAN TUBERCULOSIS CONSIDERED FROM SEVERAL VIEWPOINTS *

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Tuberculosis in its most common form of manifestation, which is pulmonary consumption, is such a nearly universal infection, is so fully known to mankind in almost every climate and human condition, that its literature alone has reached proportions far beyond the reasonable ability of any one person to read or adequately to digest; but, nevertheless, a sketch will be attempted concerning the principal points of view from which it has been considered.

Probably the aspects that have received the widest attention and study may be grouped under four headings, namely, sanitation, statistics, sentiment, and statesmanship, and these main topics will be dealt with briefly not only in their relation to the disease named, but also in their relation to each other.

## SANITATION

In the public health language of to-day this word, in the strictest sense, means prevention—that is, a watchful, unsparing, resolute, intelligent detection and destruction of every agent given off, directly or indirectly, from the body of a sick person, which can cause disease in another. In the case of tuberculosis this applies chiefly to the spittings of consumptives, and, inasmuch as this malady is ordinarily of chronic dura-

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* An address delivered before the Medical Society of City Hospital Alumni, St. Louis, Dec. 2, 1909.

tion, this task of vigilant watchfulness must be maintained by physician, nurse, friends, health officer, and the patient through months certainly, and possibly years of time.

As has just been stated, such sanitation must be the joint outcome of the efforts of all these parties in order that it shall be most effective for public protection. Under a law that would require notification by the attending physician or affected family to the local health officials of the presence of a case of disease, appropriate regulations would be applied which would call for the sincere cooperation of the parties in interest, alike for the defense of the public against harmful influences proceeding from the sick-room, and for the protection of the convalescing patient against reinfection of himself or herself by undestroyed germs in the expectorated matter or other discharges.

To secure legislation adequate to cope with such dangers, and to secure its enforcement, the teaching of the public is a work of necessity, and this is usually begun by the pioneer efforts of medical men who point out the risks of promiscuous spitting, poor ventilation, and the like; and, ordinarily, such instruction is supported and supplemented by ministers, teachers, and other leaders until a state of public opinion is reached which will demand that nothing in reason shall be left undone to protect the people against either home-grown or imported infection.

Thus, when a clear perception of the danger with regard to any certain disease is reached, the way is opened for ready acquiescence in measures of sanitation aimed at other disease-breeding agents and conditions; as, for example, those that foster typhoid fever, malaria, dysentery, and the like, the sum-total of such cooperative work developing a distinct stiffening and toning-up of a community's moral and physical fiber, betokening an actually heightened power of resistance toward disease in general, together with a courage and self-reliance growing out of sound knowledge and right understanding of dangers to be faced, and the measures to be employed for their defeat.

This would mean that science, skill and sense would leave no room for demoralization, fear, or panic and that pestilential threatenings would be met with the same cool, firm judgment that should distinguish trained, orderly minds when other forms of calamity and peril are confronted.

Thus, then, the word "sanitation" epitomizes and is the expressed measure of all the forces and influences—moral, intellectual and physical—that can be summoned forth by the power of man to make war on disease; and to prove that public education is a prime factor in this question it is only necessary to point to the fact that, however perfect a sanitary law may be, it will nevertheless be a dead letter unless the live wit and perception of the people comprehend its purposes, and demand its strict, impartial enforcement against given conditions unfavorable to health.

When called before a tribunal fitted to judge in such matters, and the reason for its being is demanded, Sanitation can stand upright and with calmness and confidence make this answer: "I know the causes and conditions from which come tuberculosis, cholera, rabies, malaria, yellow fever, hookworm disease, meningeal fever, sleeping sickness, diphtheria, bubonic plague, leprosy, and still others. Give to me, therefore, the law and the money and I will strangle outbreaks of these diseases in their cradle."

On a medal struck by the English people to commemorate their deliverance from the Spanish Armada, and all that it meant, is this simple but striking legend: "His winds blew and they were not." So with respect to foes of our own, coming from former Spanish lands to the southward, it may be said, "His work was done and they are not," to mark the conquest by our medical fellow-countrymen of yellow fever and malaria in Cuba and Panama.

### STATISTICS

In no way other than by carefully gathered and kept records of births, sickness and deaths, with the causes of the latter and other pertinent data made plain, can any state or community take account of its vital resources and liabilities, and learn the truth that is of fundamental importance to its own existence and well-being. Until a recent law was enacted, sad to say, there were no means by which Missouri as a state could have such an accounting. It was possible to learn such facts only with respect to certain localities, namely, the larger cities, which by local ordinance require the reporting and recording of vitality, morbidity, and mortality figures, thus affording a datum-line from which statistical measurements and conclusions respecting population, health, fecundity, sanity, longevity, etc., can be computed.

But, from the local data thus gathered taken in connection with federal census figures, and vital statistics collected under state laws elsewhere, in which the conditions of population are substantially the same as in Missouri, it is possible to approximate the truth with respect to our own state, and to make estimates in cold figures of our losses year by year from tuberculosis.

Let it be said here that the delinquency on the part of a state which fails strictly to require the recording of every birth and death tells against the intelligence and good name of its government. To illustrate, in the cold-blooded calculations of life-insurance actuaries such an omission weighs heavily; as, where the full truth with respect to health conditions is not officially discoverable, the doubt is resolved against the commonwealth, and higher rates are assessed and must be paid accordingly.

Let a glance, therefore, be taken at the estimates of losses from the single cause mentioned, which are deduced from sources just referred to as affording the only safe data for the purpose. Such a story may be to many persons like a thrice-told tale, but its constant iteration, told in passionless facts and figures, seems necessary to make an impression on that variety of the mathematical human mind called business intelligence, which scorns anything so soft as sentiment

For example, it is known that in St. Louis more than 1,000 persons die every year from tuberculosis, most of them being under middle age and in the prime of productive usefulness to themselves and the public; and, further, that for every one thus dead there are no fewer than five persons sick with that disease and tending toward the same destination. This local ratio of disease and death, when extended proportionately to the whole population of Missouri, shows an annual death-list of upward of 5,000, with probably five times that many persons similarly diseased. Your own pencils will show, if you are statistically inclined, that the dead bodies thus annually produced, if laid side by side, would extend nearly one and one-half miles—a causeway of death corduroyed by human corpses at a net cost or economic loss to the state, under its own valuation of a human life, of more than $20,000,000.

Not to speak of either the heartlessness or the stupidity of tolerating such a situation, when the test of widest medical experience has shown it to be both needless and improvident, would it not be a good business stroke for the state to enact laws and furnish funds providing for a searching survey of its own vital and sanitary status, to the end that it may accurately measure its own danger, destroy the conditions that favor such vital and economic waste, and let the world know the facts concerning its own hygienic housekeeping? Is it not a stinging indictment of a hollow civilization and doubtful Christianity that millions on millions of public money are poured out by this nation because of the fantastic conjurings of a mad militarism, when but a tithe of such profligate squanderings would save so many thousands of lives, and give physical happiness to so very many thousands more? Think what answer could be made to the question, asked perhaps by some visitor from another world curious to know something of our manners and ways: "And is this the best wisdom that the human race can show?"

### SENTIMENT

As before suggested, many self-wise persons are unwilling to take account of sentiment, declaring that it can have no proper place in every-day affairs. Such persons are oblivious to the fact that sentiment sways human minds to an extent that justifies the saying that he who writes the songs of the people need have no care who makes their laws. Every sentiment that grows out of human thought or temperament must acknowledge some relationship to this serious subject. The poet's apostrophe to death denotes this:

> Come in Consumption's ghastly form . . .
> And thou art terrible; the tear,
> The groan, the knell, the pall, the bier,
> And all we know, or dream, or fear

—all these are more or less bound up in the story of this infection and its ravages amongst mankind.

Pathos and tragedy have unfailingly attended the prolonged march of successive generations of consumptives to the grave. Good and bad, high and low, bond and free, Dives and Lazarus, have alike been constrained by man-made conditions to join this procession, and no other than a flickering gleam has lighted the somber picture until within the present generation, but now the sun is risen and it has been convincingly shown that there is reason for the assured hopefulness with respect to those thus diseased; that the sentiments of dread and despair once almost universally felt are without good grounds, provided the teachings of sane judgment and sound reason are heeded.

Sentiment aside, the fact is that as man has sown so has he reaped, in this as well as other respects, the punishment often reaching to later generations, for only in this way, perhaps, can the blind and selfish greed of man be brought to a proper sense of his offending against the laws of Nature respecting health.

To rob one's brother of his rightful share of earth, air, light, and heaven, is to invite self-destruction through the evil conditions to which that brother is thus reduced; for, as oppressor and oppressed must needs breathe a common air, so an even-handed justice ordains that an environment charged with infection may prove more deadly to Dives and his friends than to Lazarus and his like—who may, perchance, through hazardous experience, have gained a degree of immunity thereto.

### STATESMANSHIP

Last, but not least, come all of those organized civic forces of the state whose appointed aim is the public service and general welfare—those in whose hands lie the taxing power and the spending of public funds.

Statesmanship is defined as the quality of being skilled in the art of government, having broad, sagacious views and distinguished ability in dealing with questions arising in public affairs—in short, the art or skill of a statesman.

It has been said that he who causes two blades of grass to grow where only one grew before is a public benefactor, and this is an economic truth simply stated, for it means that that particular form of subsistence is doubled—two heads of wheat, two loaves of bread, two dollars instead of one—briefly so much wealth and comfort added to the world; and statesmanship recognizes the obligation thus conferred.

But how about him who causes two human lives to develop in health and vigor where but one survived before? Has statesmanship recognized in any tangible manner in these days the economic gain and public value of such an achievement? If the lives thus saved had been those of chattels under the law, as was the case here in Missouri fifty years ago, there can be no doubt that the answer would have been in the affirmative; but, unhappily, now the reply must be "No," for human life has been, and is yet, held so cheaply in a general sense that little more than conventional regret is expressed over the wastage by preventable disease of those in their prime, and whose expectation of life reasonably should not be below the scriptural limit. Usually it is only when the grief of a personal loss is felt that concern is expressed by the man of affairs, who before knew little and cared less, respecting the conditions that give headway to tuberculosis.

The experience of an active health official in a neighboring state will illustrate this point. He was trying to raise funds to make a fight against consumption and called on a rich man, a business and social leader in his own city. After some explanation he was given a small contribution for that purpose. Three years later this man called on the official and reminded him of the former meeting, saying, among other things, that he had given the money to get rid of him, as he had an engagement, and added: "My daughter is dead of tuberculosis. I understand the subject now. I want to contribute. Furthermore, I regret that the infirmities of age make it impossible for me to give my services." Incidents such as this are not uncommon—men of business judgment, prudence and foresight are dead, as it were, to the danger of attacks by a subtle foe, the hour or place of which can never be certainly known. You or I, you and I, here or elsewhere, may be the next to yield to this insidious power. Here is a field, indeed, for the statesman's skill involving no abstract considerations that concern a few only, but a thing that may come near to or touch sooner or later the purse, the health, the life of every person in the state.

To summarize: What is a fair conclusion of this whole matter?

If the case has been clearly and honestly stated the answer is plainly this:

1. In thorough-going sanitation, rightly supported and directed, is to be found the weapons and resources with which a now pandemic infection may be met and overthrown.

2. Statistics, properly collected and kept, afford the only true measure of health or disease in a given body of people, and constitute and index showing where sanitation is needed, and how it should be applied.

3. Sentiment, the sense of loss or fear of loss in the individual and public, is often the compelling cause or force that moves a heedless or ignorant people to better things in public health affairs.

4. Statesmanship, rightly directed, possesses the promise and power of fundamental changes in economic directions through enlightened legislation, and in the supplying of funds needed for overcoming disease. These possibilities are now only dimly seen, but when realized in public policy and law will foreshow the virtual extinction of tuberculosis, as a population infection, and which now looms as the appointed destroyer of a very considerable percentage of the civilized world's human inhabitants.

323 Odd Fellows Building.

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# A CASE OF STENOSIS AND ATRESIA OF THE ALIMENTARY TRACT WITH IMPERFORATE ANUS

CHARLES GOOSMAN, M.D.
CINCINNATI

*History.*—The history of both parents was negative. Labor was normal except that the amniotic fluid was distinctly increased in amount. The infant, a male, weighed 6 pounds. The cry was feeble. Imperforate anus was found when the baby was washed. Twelve hours after birth vomiting commenced, arousing a suspicion that an occlusion might exist in upper part of alimentary tract. The vomitus was bile-stained and continued at frequent intervals until death sixty hours after birth.

*Post-mortem Examination.*—A median perineal incision disclosed the blind end of the rectum about three-quarters of an inch from the surface. The bowel contents were grayish white and flaky, not resembling the meconium. The introduction of a probe showed this part of the bowel to be closed about 1½ or 2 inches farther up. On removing the stomach and intestines it was found that the large intestine (containing meconium) ended in a blind extremity, which lay alongside of the upper closed end of that segment of bowel which had been opened from below. In other words, there was imperforate anus plus atresia of the large intestine higher up. There was a Meckel's diverticulum three-quarters of an inch long, about six inches above the ileocecal valve. This diverticulum had no adhesions. The stomach showed an hour-glass contraction involving chiefly the greater curvature. This stenosis allowed the passage of a good-sized probe.

Two features of practical importance in this case were:

1. The early onset of vomiting, pointing to some other complication besides imperforate anus.

2. If this infant had been operated on, the rectum could readily have been found, but the absence of meconium would have led to a search for the atresia higher up. The presence of meconium, on the other hand, does not exclude the possibility of atresia of the intestine higher up, according to Kuliga,[1] who believes that intestinal atresia is comparatively late in its development, after bile secretion had commenced. But it seems very unusual, at least, to find meconium below a congenital atresia, even if, in the supposed cases, we admit the dark-colored substance to have been meconium, a statement not yet proved.

As for the ever-recurring question of etiology, in this case there were no signs of adhesions, peritonitis or any constricting bands. The very plausible theory of Kreuter[1] seemed to fit pretty well. Kreuter found, from a study of human embryos between the ages of 4 and 10 weeks, that after the alimentary canal had been formed there occurred a rapid growth of the lining cells, which ultimately caused an obliteration of its lumen. After a short period in this condition the rapid growth of the bowel wall caused a complete re-establishment of the lumen. Some of this had been known before, especially in the development of the duodenum,[2] but had not received attention as a generally applicable explanation of congenital atresia. Kreuter believes all these cases to be due to failure in the re-establishment of the lumen.

1209 Walnut Street.

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# THE OPSONIC INDEX OF BACILLUS-CARRIERS*

ALICE HAMILTON, M.D.
CHICAGO

The importance of the typhoid carrier as a conveyor of infection is being impressed on us daily, and we are greatly in need of some method for detecting such persons which is quicker and less cumbersome than the bacteriologic examination of stools and urine. Aside from the fact that the latter takes usually several days to carry out, there is the further disadvantage of intermittency in the excretion of typhoid and paratyphoid bacilli, which makes it possible for a carrier to escape detection for weeks or even months if the specimens are collected during one of the germ-free intervals. The agglutination test is positive in a certain proportion of carriers, but in the opsonic index we have apparently a means of diagnosis more rapid than the bacteriologic examination and more constant than the agglutination test. Gaehtgens[1] recently examined the opsonic index of 12 typhoid convalescents who were not carriers, and of 16 chronic typhoid carriers. He found that while the former lost their high index to the typhoid bacillus within three or four months after recovery, the carriers, with one exception, had a persistently high index lasting for months or years. On the other hand, only 75 per cent. of the carriers gave a positive agglutination.

Recently I undertook a search for typhoid carriers among 24 persons who had a history of gall-bladder disease, making the agglutination and opsonic tests during the time occupied by the bacteriologic examination. Seven of the 25 (28 per cent.) had a decidedly abnormal index to typhoid or paratyphoid bacilli, sometimes to both. Repeated opsonic examinations showed that in those persons the index was always abnormal. Those who were at the time suffering from acute symptoms had a fluctuating index, now below normal, now very high, while the others had always a high index, never falling to normal. Five of these seven persons agglutinated typhoid or paratyphoid bacilli or both in dilutions of 1 to 50 or more. The bacteriologic examination showed that all seven were bacillus-carriers, five of paratyphoid bacilli and two of typhoid. Of the seventeen non-carriers, none agglutinated either variety of bacilli in dilutions as high as 1 to 50 and none had a decidedly or persistently abnormal index. As the opsonic index was abnormal in 100 per cent. of the carriers and the agglutination test in only 71 per cent. the former is evidently the more valuable procedure for the detection of carriers.

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[1] Referred to by Kreuter: Die angeborenen Verschliessungen und Verengerungen des Darm-Canals im Lichte der Entwickelungsgeschichte, Deutsch. Ztschr. f. Chir., 1905, lxxix, 1.

[2] Tandler: Anat. Anz. (Erganzungsheft), 1900, xviii . Mentioned in Quain's Anatomy, Ed. 11, Vol. i, on Embryology, in a footnote to p. 163, on the alimentary tract).

* From the Memorial Institute for Infectious Diseases.

[1] Gaehtgens: Deutsch. med. Wchnschr., 1909, xxxv, 1337.

The test can be made rapidly and easily, and in case of an unexplained epidemic in an institution where a large number of persons would have to be examined the work would be simplified by first taking the opsonic index of all the suspects and making a bacteriologic examination of the stools of those who showed an abnormal index.

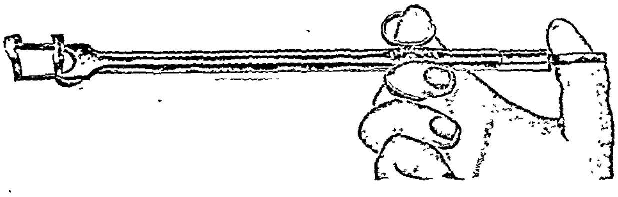
In making these tests the serum both of the control and of the suspected person should be heated to 58 C. for 15 to 20 minutes. By this means the lysin for typhoid bacilli is destroyed while the heat-resisting element in the opsonin remains, making a decided contrast between normal serum, which contains but very little of this element, and immune serum which is usually very rich in it.

1745 West Harrison Street.

## A NEW TONSILLOTOME

WILLIAM EDWIN GROUND, M.D.
SUPERIOR, WIS.

The frequent necessity for removing the tonsils has given opportunity for the invention of a variety of instruments. Many of these are clumsy and others are inefficient, as I know from personal experience. The most popular instruments are the tonsillotome and the scissors.



A new tonsillotome.

The scissors operation, if rightly done, is effective, but the difficulty in operative manipulation is considerable. The tonsillotome is the most desirable instrument for the average operator to use, but the trouble with the tonsillotomes on the market has been heretofore that only a partial removal of the tonsil was possible, in that only as much of the tonsil as projected beyond the faucial pillars was removed. All beneath that plane was left, and this is usually the most dangerous part of the tonsil. The dictates of modern teaching is to the effect that all of the tonsil should be removed.

With the idea of utilizing the tonsillotome feature I have devised the instrument shown in the cut. The cutting mechanism is placed at right angles to the shaft, thus allowing it to be placed down between the pillars of the fauces.

If adhesions exist between the tonsil and the pillars, as is often the case, they are severed. I have devised an oblique angle scissors for this purpose, but this is not material. When the tonsil has been made free the tonsillotome is slid down over it and the tonsil quickly removed.

I believe that this instrument will be of material assistance to many in executing what is usually a very awkward and incomplete operation. The mechanism is very simple. Aside from the finger-rings, there are only two pieces. These are nicely tongued and grooved the entire length of the shaft to insure precise and firm coaptation of the blades. The whole instrument may be slid apart instantly for cleaning, without so much as adjusting a screw. The tonsillotome can be operated with equal facility on either side.

1708 Ogden Avenue.

## VACCINES IN ACUTE AND CHRONIC OTITIS MEDIA

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Although in late years bacterial products prepared in one way or another have been used in almost every conceivable pathologic condition, and especially in localized inflammatory processes, there is little in the literature on the application of inoculation treatment to otitis media. It would seem from the fact that this is a strictly local disease, and from the ease with which the causative organisms are isolated in the majority of cases, that this condition would lend itself particularly well to treatment by specific vaccines. The fact of its use is mentioned by a number of writers, but little is said of the value of the treatment in this particular disease. For these reasons I desire to report the following cases:

Case 1.—Private J. H., Hosp. Corps, U. S. A., aged 41. Date, Aug. 2, 1908.

*History.*—At 15 the patient had discharge from right ear; at 25 had malaria; for past ten years has been troubled with excessive amount of wax in the ears.

*Present Condition.*—About a week ago his right ear began to ache and he put sweet oil into it. Ear continued deaf and painful and three days ago a purulent discharge began. On examination the nasopharynx is found to be normal except for some congestion; Eustachian tubes are both readily inflated by Valsalva's method. Left ear, normal. Right ear, external auditory canal full of pus, drum red and thickened, small perforation in posterior lower part.

*Treatment and Course of Disease.*—Lavage of canal daily followed by thorough drying. Inflation through Eustachian catheter.

August 4: Drum red and thick. Discharge continues.

August 5: Pain and discharge stopped. The local treatment is continued until August 11, when, the symptoms having entirely subsided, the treatment is stopped.

August 17: Profuse discharge and considerable pain. Agar tube is inoculated from the pus. Local treatment again given twice daily until August 20, when it is stopped.

August 21: The purulent discharge continues unabated. The culture made on August 17 shows a diplo-bacillus belonging to the *Mucosus capsulatus* group, apparently in pure culture. A vaccine is made from this culture and on this date 1 c.c. is injected. In three or four hours after the injection the site of injection is red and swollen and the patient says he feels as if he had the grip. These symptoms are all gone in twelve hours.

August 25: The discharge has entirely stopped. No pain; 1 c.c. vaccine injected. No reaction.

August 31: No return of pain or discharge. Drums look normal except for a small red spot at the site of the perforation.

July 1, 1909: The patient has remained to the present time without any return of the disease.

Case 2.—Corporal G. B., First U. S. Cavalry, aged 35. Date, Aug. 16, 1908.

*History.*—Patient had smallpox when a child; malaria two years ago; dysentery one year ago. Six months ago felt tickling sensation in right ear and afterward a purulent discharge began and has continued to the present time.

*Present Condition.*—Patient complains of tickling sensation in right ear and of a purulent discharge from it. On examination the nose is found to be normal except for slight roughening of the septum, where a spur was removed about a year ago. Left ear normal. Right ear: External auditory canal contains a dirty-white purulent material; drum is thickened and all of the central part is covered with granulation tissue; around the periphery the drum has a normal color; short process very prominent, manubrium cannot be seen; drum bulges out when Valsalva's method of inflation is used.

*Treatment and Course of Disease.*—Aug. 16, 1908: Lavage of ear with hot phenolized water followed by careful drying. Spraying of menthol in alcohol through Eustachian catheter.

August 17: Culture on agar shows a diplococcus and a bacillus which is identified as *Bacillus pyocyaneus.* A vaccine is made from a mixed culture of these two organisms and on this date 0.5 c.c. is injected. This is followed in a few hours by decided increase in the discharge from the ear and considerable pain.

August 18: Marked swelling of the tissues around the auditory canal and free discharge. Patient complains of considerable pain. Local treatment is continued.

August 21: A culture is again made from the discharge and shows the same organisms. A vaccine is made after plating and securing the organisms in pure culture.

August 28: Discharge and pain continue.

September 1: No lessening of pain or discharge; 1 c.c. of the second vaccine is injected. No reaction.

September 3: Pain entirely stopped; discharge much less in amount.

September 9: Slight discharge and no pain; 1 c.c. vaccine given.

September 18: No discharge and no pain; 2 c.c. vaccine given. No reaction.

October 4: No discharge and no pain since September 13; 1 c.c. vaccine given.

October 28: No return of the pain or discharge. Drums look normal except for slight retraction. Inflation easy by Valsalva's method. The local treatment was stopped in this case on August 28.

July 1, 1909: Patient has never had any return of trouble with ear.

CASE 3.—Private H., First U. S. Cavalry, aged 38. Date, Aug. 27, 1908.

*History.*—Patient had measles, typhoid, and malaria when a child. Never any trouble with ears before.

*Present Condition.*—Patient complains of severe pain behind angle of jaw and in left ear. On examination right ear is seen to be normal. Left drum is red and bulging.

*Treatment and Course of Disease.*—August 27: Drum of left ear is incised; followed by discharge of thick white pus. Lavage of canal daily with warm water and inflation through Eustachian catheter. This treatment is continued for a period of one month, until September 27, when a culture from the discharge shows the *Staphylococcus pyogenes aureus* in pure culture. On this date the discharge is profuse and there is considerable pain.

September 27: A vaccine was made from the culture of the staphylococcus and diluted to contain 500 million organisms to the cubic centimeter. One c.c. is injected on this date. Injection followed in three or four hours by feeling of malaise and by a chill.

September 30: Discharge entirely stopped. Drum looks uniformly red but there is no swelling of the external auditory canal as on September 27. On account of absence from the post the patient was not seen again for ten days.

October 10: Discharge has not recurred and no pain has been felt in the ear. Drum looks moist and white and a small granulation is present on the posterior half; 1 c.c. of the vaccine is injected. No reaction.

October 31: No return of the pain or discharge. Drum looks normal except for slight retraction. Readily inflated by Valsalva's method.

December 7: No return of the disease.

July 1, 1909: No recurrence of the disease to the present time.

CASE 4.—Sergeant S., U. S. Cavalry, aged 26. Date, May 28, 1909.

*History.*—Patient had measles when a child; dengue in 1906; never any trouble with ears before.

*Present Condition.*—Patient went swimming on May 12, and three or four days afterward noticed aching and soreness in the left ear. He says that on the night of May 27, something broke in the ear and that it afterward felt better; a profuse discharge began after this. Examination, May 28, shows the tissues around external auditory canal to be greatly swollen; I am unable to see the drum except in its posterior part, in which a large perforation is visible. Left tube can be inflated only by catheterization, but is readily inflated by this method.

*Treatment and Course of Disease.*—May 28: Lavage of canal twice daily with warm phenol solution followed by thorough drying. Daily inflation of Eustachian tube.

May 31: Discharge continues; yields cultures of *Bacillus pyocyaneus.* Vaccine is made from this and is diluted to contain 250 million organisms to the cubic centimeter.

June 3: No improvement; 0.5 c.c. vaccine injected. Local treatment stopped.

June 4: Pain in ear somewhat increased and site of vaccine injection red and swollen.

June 6: Pain has disappeared and discharge stopped.

June 12: No return of pain or discharge; 1 c.c. vaccine given. No reaction.

June 30: No return of any of the symptoms. Ear drum looks normal.

August 1: Patient has remained well to the present time.

CASE 5.—Private M., First U. S. Cavalry, aged 24. Date, May 15, 1909.

*History.*—Patient had measles and typhoid when a child; had acne for many years until about two months ago, when the lesions all disappeared after a course of treatment lasting for several months with an autogenous vaccine of *Staphylococcus pyogenes albus.* About middle of March of this year, during target practice, his left ear became very painful and shortly afterward pus began to run from it. On May 15 the right ear also began to discharge.

*Present Condition.*—Profuse discharge from the right ear. Canal so swollen that the drum cannot be seen. Ear is washed out thoroughly each day and afterwards dried. Eustachian tube inflated daily and air is heard to escape through the drum.

May 19: Swelling of canal abated sufficiently to allow drum to be seen. Perforation just below short process. Discharge is profuse and pain continues.

*Treatment and Course of Disease.*—May 26: Culture is made from the discharge and vaccine prepared.

May 30: Discharge continues; 1 c.c. vaccine injected.

May 31: Patient admitted to hospital with temperature 104; extreme prostration. Site of the vaccine injection much swollen.

June 2: Patient feels well again. Temperature normal. Discharge from ear very slight.

June 5: Soreness and discharge have entirely stopped in both ears. Drums in both ears look normal except for small red spot at site of perforation in the right. Both readily inflated by Valsalva's method.

June 19: No vaccine has been given since the first dose on account of the severe reaction obtained at that time. There has been no return of the pain or discharge. Both drums look normal. Both are readily inflated by Valsalva's method and show no retraction; 0.5 c.c. vaccine given. No reaction except slight redness at the site of injection.

August 1: No return of any of the symptoms.

CASE 6.—Private C., First U. S. Cavalry, aged 26. Date, May 24, 1909.

*History.*—Patient had gonorrhea one year ago; malaria a few months ago; has secondary syphilis at the present time. He went in swimming two weeks ago and a day or two later his left ear became painful and began to discharge.

*Present Condition.*—On entrance to hospital the left auditory canal was so swollen that the drum could not be seen. On inflation through catheter air is heard to escape from a perforation in the drum.

*Treatment and Course of Disease.*—Daily lavage of the canal with warm phenolized water and thorough drying. Inflation through catheter.

May 26: Drum can now be seen; it is thickened, white, and moist. No perforation can be distinguished. Local treatment is continued until June 1, when a culture from the pus shows *Bacillus pyocyaneus* in pure culture. A vaccine is prepared from this and diluted to contain 250 million organisms to the cubic centimeter.

June 3: Five-tenths of a cubic centimeter vaccine injected.

June 4: Discharge a little more profuse; redness at site of the injection. Patient not seen again on account of field work until June 13, when the canal was still somewhat swollen. No discharge; 1 c.c. vaccine given.

June 28: Arm remained red and slightly swollen for about a week after last injection so that no more was given until to-day. Patient says that he has had no pain in the ear since the last injection and that there has been no discharge. On inflating the tube by Valsalva's method air escapes from the perforation and with it a drop of watery fluid; 1 c.c. vaccine given. No reaction.

July 17: No pain or discharge. Drum looks normal except for slight congestion along manubrium. Inflation easy by Valsalva's method.

August 1: Ear looks normal. No return of any of the symptoms.

Twelve cases besides those reported here have been treated with vaccines, but the results in all, with two exceptions, have been similar to those obtained in these. Of these two exceptions, one was of eighteen months' and the other of two years' duration, and in both of them at times there were found small pieces of bone in the discharge. These patients improved under the vaccine treatment from time to time, but always relapsed. It is believed that the vaccines would be of assistance even in this class of cases, but operative interference would probably be necessary to remove the necrotic tissue. In most of the cases treated the local treatment was stopped when the vaccines were started in order that the two methods might be compared, but it would obviously be much better to use both together in order to obtain the good effects of both.

To avoid the reactions reported in some of these cases the vaccines are now made to contain 250 million organisms to the cubic centimeter, and for the first dose only 0.5 c.c. is injected; if there is no reaction with this the dose is repeated in five days, but if there is reaction the second dose is deferred for a week. When 0.5 c.c. can be given without reaction the dose is increased to 1 c.c., and this is continued at weekly intervals until a cure is accomplished. No opsonic counts were made in these cases, and I believe that the clinical symptoms are sufficient to base the dosage on if the initial dose is small and the rate of increase very gradual.

The vaccines in these cases were prepared by inoculating agar tubes with a platinum wire from the discharge as it issued from the perforation in the drum, or if this could not be seen then as close to the drum as possible. If more than one organism was found the culture was plated and vaccines made from cultures of the separate organisms recovered; these were then diluted to contain a certain number of germs to the cubic centimeter and then mixed in equal proportions. I believe that better results are obtained by this method than by making the vaccines directly from a culture which is a mixture of two or more organisms, as is sometimes done. When the germs are grown together one may develop more rapidly than the others, so that the vaccine does not represent all of the causative organisms. The time that it takes for plating is not an objection to the method, for it is found that in the acute cases only one kind of organism is present in the majority of instances, and that plating is necessary only in the chronic cases.

It has been stated so often by writers on vaccines that they are not to be considered "cure-alls" that it seems unnecessary to repeat it, but that they are efficient aids in the treatment of many morbid conditions it is now impossible to deny. No one can treat by inoculation one of these obstinate cases of otitis media which refuse entirely, or only after the most prolonged treatment, to yield to local means, without reaching the conclusion that bacterial inoculation is a powerful agent for the cure of this disease.

## Therapeutics

### PNEUMONIA

Those who believe that didactic teaching is not an important factor in the instruction of medical students should read the lecture on the treatment of pneumonia by Dr. Frank S. Meara, of New York, Professor of Therapeutics in Cornell University Medical School (*New York Medical Journal*, Jan. 8, 1910).

The didactic lecture will always have its part in the curriculum of medical instruction. Text-book recitations and explanatory talks on the text can never be quite so complete as the condensed, composite picture presented by an able instructor in the form of a lecture.

Pneumonia is a general infection with a primary local manifestation in the lungs. There is no specific treatment, but the proper management of all details in the care of the patient causes a splendid percentage of recovery from this disease, which tends to recovery less than most acute infections.

Meara well discusses the treatment of bronchial pneumonia and lobar pneumonia together, as the management is certainly almost the same, with the difference that bronchial pneumonia is a disease of early childhood, of old age, and sometimes secondary to other infections, and to anesthesia; while lobar pneumonia may occur at any time of life. The duration of bronchial pneumonia is indefinite. Lobar pneumonia typically is self-limited, and from this standpoint tends to recovery, but complete recovery in any given length of time depends on the management of the patient. In other words, lobar pneumonia to-day is a very serious disease. The increase of circulatory defects, which is enormous, as shown by statistics, has made lobar pneumonia a much more serious proposition than it was twenty-five or even ten years ago, as the greatest strain comes on the heart. Also, the permanent recovery of lung and heart is more tedious and more doubtful than ten years ago.

Meara divides the management of pneumonia under various heads and shows how important the sun and fresh air exposure is if the patient cannot be actually put on a veranda; how important it is that the bed should be just right for the patient's comfort and for the ability of the nurse to handle the patient comfortably; how important it is that the patient should have the most comfortable, absolute rest compatible with his needs and wants; and emphasizes the fact that a weakened heart may be pushed to acute injury or even final collapse by an unnecessary physical exertion.

The necessity for slightly changing the position of the patient frequently is emphasized. This is especially true of older persons in whom hypostatic congestions due to impaired circulation can aggravate the dyspnea and cardiac tire in pneumonia, or can even allow edema of the lungs to occur.

Meara emphasizes the necessity for a bed that does not sag in the center, which is true for all patients suffering from acute disease. Backaches and muscle tires are eliminated if such a condition of the bed is prevented. The feet should always be kept warm in pneumonia, more perhaps than in most diseases, as the better the peripheral circulation the less the internal congestion.

The temperature of the room should be down to from 65° to 70° even in mid-winter, and if the wind blows dust or snow through the open windows Meara suggests putting cheese cloth screens over them.

The open-air treatment is strongly advocated, and Meara is certainly right in declaring that the temperature will be lowered, dyspnea diminished, sleep induced, and the necessity for cardiac stimulation reduced to a minimum.

The preparation of the patient for open-air treatment in winter he carefully describes as follows: A blanket is spread over the woven wire spring large enough to extend beyond the sides and below the foot. Over this is spread a rubber sheet or paper and then the mattress. Next the blanket and rubber sheet are folded up over the mattress and secured with safety pins. The patient is clothed in a light suit of flannel, stockings and a hood. He is covered with enough to keep him warm. The lighter weight warm clothing, such as eiderdown quilts, if possible, are preferable. A hot-water bag at the feet completes the equipment.

Very strenuous hydrotherapeutic measures which are so well described by Baruch and referred to and quoted by Meara are not needed in the fresh-air treatment of pneumonia.

It is becoming more and more recognized that increased temperature is one of Nature's methods of overcoming an infection. Consequently the mere matter of high temperature, even to 104 F., and if short-lived to 105 F., does not require active antipyretic measures in pneumonia. Coal-tar products certainly should not be given, except possibly for a dose or two on the first or second day of the fever. Aconite and veratrum viride should not be given. In other words, the heart must be protected from everything that will affect its strength from the very beginning of pneumonia. Hyperpyrexia, or prolonged temperature of 104 F., can be well combated by rolling the bed of the patient into a warm room or closing the windows and warming up the room in which he is ill, and sponging him with tepid, cool or cold water, depending on the height of the fever.

For cleanliness the patient, unless critically ill, should be sponged daily with hot water or with tepid water. Meara emphasizes the necessity for careful cleansing of the mouth, nostrils and eyes of pneumonia patients. The exact method and the simple solutions used may depend entirely on the choice of the physician and nurse. There is nothing that better shows the ability of a nurse than the condition of the tongue, teeth and mouth of a seriously ill patient.

Whatever is done for the patient must be done at regular intervals, as prolonged periods of rest with as little disturbance as possible are very important desiderata in pneumonia.

Meara goes into careful details of the calories needed by a patient with fever, and the calories furnished by different types of food. Suffice it to say that the patient with pneumonia ordinarily should not be under-fed, but the greatest care should be exercised that the food allowed does not cause either gastric or intestinal indigestion. There is a tendency from the disease alone to intestinal distention and tympanites, which is serious and may be the actual cause of the patient's death. Such distention which prevents the proper action of the diaphragm may be the last straw to a laboring heart.

It is a mistake to believe that a patient who has high temperature can long stand his disease without sufficient nutrition. While the nutrition is not of so much importance in pneumonia as it is in typhoid fever where the febrile process is so much longer continued, it will still often be the difference between life and death as to whether a patient is properly nourished. Too large an amount of any single food, or too much of any combination of foods, will certainly cause maldigestion and add toxins to the blood that is already surcharged with the toxins of the disease, and the result will often be an overwhelming of the nervous system and death.

Cerebral irritation, insomnia, delirium and meningismus are often the results of constipation or insufficient evacuation of the bowels, an overloaded stomach, sluggishly acting kidneys, and a dry skin or a skin covered with perspiration that has not been properly removed. All these preventable conditions are factors in causing these cerebral complications. Therefore, proper daily evacuation of the bowels with a simple laxative tablet or with an enema, the ingestion of plenty of water, the proper care of the skin, and the prevention of indigestion will generally keep the cerebrum free from irritation.

Theoretically, a quart of milk, one or two raw or coddled[1] eggs, a cup of thin oatmeal gruel, the expressed meat serum from a pound of chopped steak, a little salt, the juice of one orange, perhaps a cup of coffee in the morning, and plenty of water during the day (unless the heart is failing and there are edemas) will furnish the nutrition needed. Any indigestion, or a particular dislike for any one article of food, should be quickly met by a change. Some patients cannot take unmodified milk, and various preparations of it may be substituted, or various methods of administering cooked milk may be substituted.

In the beginning of pneumonia, as in the beginning of all infections, a dose of calomel is generally indicated. Meara, in consonance with many clinicians, advises small doses of calomel frequently repeated. This method of administering calomel is not to be advised, as much better results are obtained by giving the amount the patient apparently requires, viz., rarely more than 3 grains, often but 2, administered with 10 or 15 grains of bicarbonate of soda, and often coincidently with an aloin compound tablet. The resulting evacuation of the bowels is generally all that is desired. If not, some simple saline cathartic may be administered. Later in the disease other laxatives are better, and catharsis is rarely indicated.

If in spite of careful management of the diet and of the bowels meteorismus occurs, a colon tube should be passed to evacuate the gas in the lower intestine. If the temperature is high, an ice coil over the abdomen will reduce the temperature, cause tone to the intestines, and often is more efficient than the much-advocated hot turpentine stupes in causing expulsion of the intestinal gas. Enemata containing turpentine are advised, but it is rarely that rectal injections will relieve tympanites of the small intestine. Such distention is generally caused by paresis of the muscle coats of the intestine, and sometimes strychnin hypodermatically may be effective, in doses of 1/30 of a grain, three or four times in twenty-four hours, if the condition is not serious. Sometimes eserin (physostigmin) given hypodermatically is effective in removing the condition. Aseptic ergot, injected intramuscularly, is sometimes of the greatest value in restoring tone to the intestines.

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[1] A coddled egg is an egg broken into boiling water after the water has been removed from the fire.

The first pain in pneumonia certainly requires morphin, as this pain can be severe enough to cause considerable cardiac depression, to say nothing of suffering. There is no question that hot moist applications over the side affected tend to prevent the necessity for much morphin. Whether advisable or not depends on the decision of the individual physician. They have done good; they can do good. On the other hand, they are not a necessity and patients will often do as well without them. They should not be used if a trained nurse is not in attendance, and they should not be used unless the patient is surrounded with all the comforts needed to properly change and readjust such moist applications.

Meara believes that the patient should not receive an expectorant, stating that these preparations tend to upset the stomach. This is perfectly true of expectorants as they are written. It is not true of ammonium chlorid administered in sour mixture. If the cough is out of all proportion to the necessity for expectoration, codein should be given. If the mucopus is sticky and adhesive, ammonium chlorid will render it more liquid and easy of expectoration. The following prescription is a type of what is meant by a sour cough mixture:

| ℞. | gm. or c.c. | | |
|---|---|---|---|
| Codeinæ sulphatis | 20 | | gr. iv |
| Ammonii chloridi | 5 | or | ʒiss |
| *Syrupi acidi citrici* | 50 | | fl.℥ii |
| Aquæ, ad | 100 | | ad, fl.℥iv |

M. et Sig.: A teaspoonful, in a wineglass of water, every two, three or four hours, as deemed necessary.

Of course, the codein could be left out of the above prescription if it is not indicated. If it has seemed advisable to apply moist hot applications to the chest, these alone seem to render the expectoration easier.

If in spite of the fresh-air treatment, of proper evacuation of the bowels, and of the carefully regulated diet, cerebral irritation and insomnia occur, the hypnotic selected will depend on the condition of the circulation. If the circulation is good, as advised by Meara, "trional (sulphonethylmethanum) in 10-grain doses, in a warm drink, or in a little wine or whisky, or chloralamid, 20 grains," administered in a little cold whisky and water, may be given. Meara states that either of these may be repeated in one or two hours, if needed. Hyoscin hydrobromid is often efficient as an hypnotic in pneumonia. Veronal-sodium, in 5-grain doses, is another good hypnotic. If the circulation is weak, the safest hypnotic is morphin, and this, as Meara states, will often be efficient in small doses, from 1/12 to ⅛ of a grain.

Venesection may be indicated in the first stage of pneumonia in plethoric individuals, and certainly has saved life. Brisk purging, the stopping of pain with morphin, and a hot foot bath will often relieve the necessity for venesection. If the heart begins to fail later in the disease, the sheet anchor should be strychnin, but this drug should never be pushed. Except in emergencies, temporarily, the frequency of strychnin should not be more than once in six hours, hypodermatically, in 1/30 of a grain dose. If a smaller dose is given, it may be administered more frequently. Meara places a great deal of faith on digitalis and strophanthus. Many clinicians believe digitalis of value in the failing heart of pneumonia; but, on the other hand, and with more reason, an equal number believe that digitalis should never be used in that condition.

If the circulation is failing, a careful analysis should be made of it. Is the heart acting weakly? Is it rapid? Is the pulse tension high or low? Is the patient cold, and is there profuse perspiration? Is the patient hot and dry? Are the feet cold? Is the head hot? Are the lips blue? Is there marked dyspnea? The first caution is certainly not to do too much. While oxygen may be helpful to the patient, there is nothing that will compare with the fresh air of an open-air or practically open-air treatment. The feet should be kept constantly warm with hot-water bags. The hot-water bag over the heart is of advantage. If the pulse tension is low, strychnin is indicated, and so is adrenalin; and, as above stated, Meara believes in digitalis and strophanthus. Meara administers adrenalin solution in doses of from 10 to 15 minims, injected into a muscle. Ampules of adrenalin, 1 to 10,000, are now prepared ready for subcutaneous administration. If the skin is hot and dry, pulse tension pretty good, but the face badly congested, alcohol may do a vast amount of good. The amount should not be sufficient to disturb the cerebrum. If it acts well it will dilate the peripheral blood-vessels, slow the heart, increase perspiration, and cause warming of the extremities. If all the vital centers of the body seem depressed, strychnin is certainly the sheet anchor, but it should not be used to excess, as above cautioned. If there is profuse cold perspiration, with failing circulation, hypodermatic injections of atropin, in 1/150 of a grain dose, once in six hours for a few times, is good treatment. If the brain is becoming clouded and the lungs edematous and the pulse tension is low, intramuscular injections of an aseptic preparation of ergot are often of great value.

Hypodermoclysis is probably rarely indicated in pneumonia. Much more work is put on the circulation to dispose of the increased amount of liquid at a time when it is working at a disadvantage. When the lungs are imperfectly clearing and when mucus and exudates are increasing in the lungs, physiologic salt solution would seem contraindicated.

In convalescence from pneumonia, the greatest of care should be exercised to protect the heart, which has been so severely overworked, from becoming more or less dilated and from permanent damage to its musculature. The increase of food should be carefully regulated, getting up should be very gradual, and all heart tire from the early ambulatory condition should be carefully guarded against. Not only the lungs need repair after pneumonia, but also the heart.

A patient is rarely thoroughly over the effects of pneumonia for six months, and if he is able financially to go to a warm climate, if it is winter, or to a dry climate if it is some other season, and rest for two months after his apparent complete recovery, his lungs and heart will be guarded against sequelæ from pneumonia.

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**Americans Live Wastefully.**—Americans, poor and rich, live wastefully. This cannot continue. A new basis must be established which shall, while avoiding the extreme care and economy of continental Europe, which destroys initiative and kills pride, stop the major wastes in our system of living. But of more importance than mere economy of living is the influence of the environment and method of living on the race. Will out of it all in the long run come a strong and virile race of people—a race capable of meeting the complex problems of the future and advancing still further our civilization?—From inaugural address by H. J. Waters, president of Kansas State Agricultural College, *Science*, Dec. 3, 1909.

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SATURDAY, FEBRUARY 26, 1910

## ACTIVITY OF COMMERCIAL SUPRARENAL PREPARATIONS

We have frequently had occasion to call attention in these columns to the need of physiologic standardization of certain important remedies such as digitalis, ergot, and suprarenal preparations. Physiologic standardization of the antitoxins, from the introduction of these remedies, has been a *sine qua non*, and there is an increasing demand that tuberculin and other vaccines be standardized before being tried on the patient. The recent publications of Hale and Edmunds and other workers have shown that the need for more uniform preparations of digitalis is no less imperative.

Schultz[1] has just published the results of a careful examination of samples of the suprarenal preparations on the American market which illustrates once more the need of more care in the methods of preparing or keeping this important drug. Of the six different products, only two were of the strength claimed; the others varied from 3.7 to 66.6 per cent. of this strength. This is the third paper on this subject to which we have called attention. Hunt, in 1906, showed that some of the preparations labeled 1 to 1,000 had only one-fifth the activity of others bearing the same label. Sollmann and Brown, in Cleveland, showed the activity of eight commercial preparations to differ greatly. Schultz is careful to give the serial numbers of the manufacturers so that the firms will probably be able to determine the date of manufacture, and we have no doubt that they will be ready with explanations of how the products were old or had been improperly kept by the retailers, etc. The fact remains, however, that inferior preparations are on the market and are probably passing into the hands of physicians daily. It is clearly the duty of the manufacturers to devise some means of preventing this, either by greater care in the manufacture, by a system of recalling the preparations after a certain date (as is done in the case of the antitoxins) or by giving the pharmacist more explicit directions as to how to keep them. There are reasons for believing, however, that some of the firms preparing this and some other drugs requiring physiologic standardization are not properly equipped for the work.

Schultz's results with the synthetic suprarenin are interesting. This product was for some time advertised as being as active as the natural base and having certain advantages, such as greater stability, over the latter. Schultz confirms his earlier work, as well as that of Cushny and others, that the synthetic product has but approximately one-half the activity of the natural base—a fact which has been recognized, somewhat tardily, by the manufacturers themselves. Apparently, from Schultz's results, solutions of the synthetic product do not possess superior keeping qualities, although it seems probable that its salts are better suited for the extemporaneous preparation of solutions by the pharmacist or physician.

All this emphasizes once more the necessity of the medical profession exercising, through pharmacologic laboratories, a greater degree of watchfulness over the drugs it uses.

## CANCER RESEARCH

In respect to the endeavor to remove or to relieve human suffering from disease, "the brotherhood of man" is not an empty phrase; witness the eagerness with which our profession is seconded in its work. For example, the present antituberculosis propaganda is mitigating suffering and minimizing disease from that plague to an enormous extent; moreover, it bids fair to revolutionize human life on the side of sanitation and prophylaxis. This propaganda has assumed its great influence and beneficence largely because of the support given it by men of great affairs and wealth. In the conquest of cancer, on which so many of our colleagues are now engaged, the work which they are doing is being seconded most earnestly and enthusiastically by people of great fortune. The recent bequest of Mr. George Crocker is tinctured with pathos, since both he and his wife before him died of this dreadful disease. His gift, which may total $1,500,000, is for the prosecution of medical and surgical research regarding cancer; the proceeds from the sale of Mr. Crocker's town and country houses, their sites and their rare and beautiful contents, are to be turned over to Columbia University, in New York City, to be used for biologic laboratory research. No part of the gift is to be used for building, and should cancer research in the future become unnecessary this fund is to be used for other medical or surgical investigation. With the possible exception of one made to a London institution for the same purpose, this is the largest single bequest made to this cause, whether by an individual or by a government. Thus is the generosity of wealthy humanitarians coupled with the devotion and heroism of a veritable army, distributed throughout the civilized world, of surgeons, laboratory workers, clinicians, statisticians and nurses.

The cancer problem is a grave one, according to statistics, though, of course, any deduction from statistics in regard to the increase of the disease should be made with conservatism and accepted with caution, since early vital statistics are notoriously incomplete, and later ones, though more full, not as exact as could be desired. In 1906 Dr. Bainbridge[1] reported figures indicating that cancer was increasing in the United States, the census report showing that from 1850 to 1890 the mortality from this disease increased from 9 to 33.5 to every 100,000 population. In England and Wales the registrar-General's returns showed the following annual ratio of deaths from cancer to each 1,000,000 persons: in 1864, 385; in 1895, 755; in 1900, 828. In France the mortality from cancer and other tumors has risen from an average of 840 per 1,000,000 persons (urban population only) in 1890 to 1.050 in 1898. In Germany, Switzerland, Austria, Norway and Sweden, Holland, Denmark and various other European countries cancer has been increasing; and since Dr. Bainbridge's contribution the Bureau of the Census has found that "the reported mortality from cancer [for 1907] is steadily increasing."

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[1] Quantitative Pharmacologic Studies: Relative Physiologic Activity of Some Commercial Solutions of Epinephrin, Bull. 61, Hyg. Lab., Bureau of Public Health and Marine-Hospital Service, Washington, D. C., 1910

A most important function pertaining to the great centers of cancer research is that of acting as clearing-houses of the offered "cures" of cancer; it is for them to dispose of exploited but ill-founded therapeutic measures, of evanescent agents, such as prove futile when subjected to adequate scientific tests; to probe and, if necessary, to discard untenable theories of the disease. While the cause and origin of cancer remain, as at present, a mystery, it is impossible to predict from what quarter help may come. At present, as Crile[2] has said, "the pre-cancer stage is the preventable or curable stage," and one gleam of hope is seen in the possibility of early recognition of the disease, and of treatment before the incurable stage is reached. This latest gift to the cause warrants renewed confidence that we shall not much longer be obliged to work in the dark so far as the origin of cancer is concerned.

## PHYSICIANS AND DIVORCE

The special report[3] of the Bureau of the Census on marriage and divorce between the years 1867 and 1906 contains many interesting data with regard to the social questions involved in these problems. Only the first part has yet been issued; and in this is to be found a discussion of the prevalence of divorce among the different occupations. This comparison is of special interest for the medical profession, because, according to the statistics given, physicians and surgeons are very high in the list of those who obtain divorces themselves or have divorces obtained against them. The report says:

"Actors and professional showmen, according to this ranking, are at the head of the list, reporting more divorces in proportion to their numbers than any other class. In all but one of the nine states considered, moreover, they occupy first place, and in the one exception they rank second. These figures thus confirm the popular impression that divorce is unusually prevalent among actors.

"Musicians and teachers of music seem to rank next to actors in the relative frequency of divorce. In South Dakota they rank first, in West Virginia they share first place with the actors, while in three of the remaining states they are second, in three third, and in one fourth. Commercial travelers apparently rank third."

Immediately after the commercial travelers come telegraph and telephone operators and then—a fact which is rather startling to our professional self-complacency—come physicians and surgeons.

Almost more interesting than the list of those who precede physicians in divorce frequency is the catalogue of those who follow them in this unenviable regard. Sixth on the list are barbers and hair-dressers; seventh, servants and waiters; eighth, bar-tenders; ninth, restaurant and saloon-keepers; tenth, hotel-keepers. Painters are fifteenth on the list; tailors are twenty-first; plumbers, twenty-second; lawyers come only in the twenty-fifth place; while teachers and professors in colleges are in the twenty-ninth place. The fewest divorces are obtained by agricultural laborers. Next to them in infrequency are clergymen, and only a little above them on the list are farmers. The striking difference between various professions is worth noting. The fact that divorces are so much fewer among lawyers than among physicians is rather surprising, though it is only to be expected that clergymen should have an advantage.

Of course, these tables are not complete. Sufficient data have been obtained, however, to permit of interesting study and discussion. There has been a very great general increase in divorce in the last twenty years, and this has apparently affected the physician even more than it has other professional men. It may be that the loss of the intimate personal relationship between the old-fashioned family doctor and his patients in their family circles has weakened the bonds of social restraint. Certainly the respect and affectionate regard of a whole community is not often sacrificed by those who have had the grace to win it. It would be interesting to know whether divorce has not affected the city much more than the country physician, and the specialist more than the general practitioner.

The whole subject is open to discussion and suggestion on many other interesting points. The present census is to be made of much more complete value in this regard both for divorce itself and for the occupation of divorced persons. It will be years before its conclusions can be reached. In the meantime it would seem that one of the duties of medical bodies and medical schools should be to maintain the honor of the profession by drawing the line firmly with regard to members of the profession whose sexual divagations would lessen public confidence in the members of the profession, thus disqualifying them for relations of intimate trust.

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[1] Bainbridge, W. S.: A Brief Résumé of the World's Recent Cancer Research, New York Med. Rec., Sept. 1, 1906.

[2] Crile, George W.: The Cancer Problem, The Journal A. M. A., 1908, l, 1883.

[3] Issued by the Government Printing Office, Washington, 1909.

## EDUCATION IN DIETETICS AND HOME ECONOMICS

The importance of a properly balanced and properly cooked diet on the health of nations as well as of individuals needs no emphasis. This is recognized more clearly every day, and, in view of the increasing cost of living, so much discussed just now, the proper utilization of food and prevention of waste is an added consideration. Until the matter of public health is given more attention and a national bureau of health is created with comprehensive powers and functions, probably no national action will be taken on the subject. It is, however, eminently suitable for action by the states and should be systematically taken up by them. The best present agencies for the dissemination of knowledge concerning foods, diet and cooking are the public schools, in a few of which, particularly in the cities, some attention is given to the subject. The principal part of the instruction of the public in this important matter at present, however, seems to be carried on by the agricultural colleges of various states. The New York State College of Agriculture at Cornell University has established a four-year course in home economics, which includes the subjects under consideration; in addition it has established a reading-course for farmers' wives, to be conducted by mail, taking up particularly the phases of the question here discussed. These efforts cannot fail to have a beneficial effect on the public health, but it is to be regretted that this vitally important work is left to the agricultural colleges, which can at best reach only a limited portion of the population. The instruction should be more universally diffused, and should be given more directly by the state governments. Let us hope that the day when such action will be taken is not far distant.

## AUTOMOBILE DATA

Many physicians are replying to the questions propounded on advertising page 47 of The Journal last week, and we appreciate their cooperation. We request any who may have overlooked or neglected the list of questions to reply now. These condensed experiences are desired not only from those who have had much to do with motor-cars, but also from those whose use of them has been limited or who have employed only horses. Typewritten numbered answers on separate paper are preferable, of course, but the blank is provided for the convenience of the busy practitioner. Each one who replies will receive (without the necessity of asking for it) the key containing the names of the machines described or mentioned in the Automobile Number.

**International Veterinary Commission on Tuberculosis.**—The International Tuberculosis Commission selected by the American Veterinary Medical Association and consisting of practical dairymen, breeders and representatives from the government bureau of animal industry and various veterinary schools in the United States and Canada recently met in Buffalo. Without making specific recommendations the commission agreed that (1) general compulsory tuberculin test and slaughter of cattle is impractical; (2) voluntary testing for owners as a general state policy should be retained; (3) the tuberculin test should be accepted under certain conditions as a basis of suitable control legislation.

# Medical News

## COLORADO

**Doctors' Building in Denver.**—The five-story building on Fourteenth and Champa streets, which is now nearing completion, is to be occupied above the first floor, exclusively by physicians and surgeons. Special laboratory and other office conveniences will be provided.

**New Buildings for Hospitals.**—The overcrowded condition of the Denver County Hospital is to be relieved by the addition of a new wing to cost $90,000.——The main building at the county farm is to have an addition to cost $30,000. A building committee has been appointed with instructions to push the work.

**State Hospital Crowded.**—The State Hospital for the Insane, Pueblo, with 920 patients, is overcrowded. It was maintained last year at a per capita cost of 41 cents per day. The Colorado Association of County Commissioners has unanimously urged the erection of another state hospital for the insane.

**Personal.**—Dr. George H. Stover, Denver, has left for Molokai, Hawaii, to study the effect of the *x*-ray on the inmates of the leper colony.——Dr. Hubert Work, Pueblo, has succeeded to the chairmanship of the state republican committee.

## FLORIDA

**New Sanitarium.**—Physicians of Lakeland have organized a stock company to operate a sanitarium to be known as the Lakeland Sanitarium.

**County Society Meeting.**—At the annual meeting of Bradford County Medical Society, held in Starke, February 1, Dr. Seeber King, Lake Butler, was reelected president, Dr. Thomas D. Gunter, Starke, vice-president, and Dr. Albert H. Freeman, Starke, secretary-treasurer.

**New Rules Adopted by Board of Health.**—The State Board of Health, at its annual meeting in Jacksonville, February 9 and 10, adopted two important rules: The first provides that no public or private school shall be operated in the state without adequate sanitary toilet facilities, and it shall be the duty of the county board of public instruction in the case of county schools, and the principal in the case of private schools to carry into effect the provisions of the rule. The second rule prohibits the keeping or maintaining a mule or horse in a corporate town or city within 500 feet of any residence or store unless under such conditions as will prevent the breeding or liberating of flies, and it shall be the duty of the city board of health, if such exist, and the mayor of the city if there is no city board of health, to carry this rule into effect.

## ILLINOIS

**Examination to Be Held.**—A civil service examination to fill the vacancy of senior physician at the Cook County Institutions will be held February 28. The position pays a salary of $1,800 with board and lodging.

**Medical Branch of Public Library.**—The Winnebago County Medical Society has appointed a committee consisting of Drs. Henry M. Starkey, Edward H. Weld and Emil Lofgren, to ascertain the views of the library board regarding the establishment of a medical branch in the Rockford Public Library.

**Hospital Overcrowded.**—The warden of Cook County Hospital announces that all but one of the wards of the hospital are at present overfilled. The overcrowding of the entire institution amounts to 189, and this is attributed by the warden to the increased population of the city and the growing tendency of individuals who are ill to enter hospitals.

**Personal.**—Dr. Harry M. Hayes. Peoria, who has been abroad for a year, sails for the United States to-day.——Dr. Charles E. Crawford, Rockford, special inspector of the State Board of Health, is reported to be seriously ill at his home from exposure and overwork during his official duties at the Cherry mine.——Dr. Paul S. Scholes has been elected a member of the medical staff of Graham Hospital, Canton, vice Dr. James M. Nelles, resigned.——Dr. Joseph DeSilva, Rock Island, has been elected secretary of the Illinois Penitentiary Commission.——Dr. Vaclav H. Podstata, superintendent of the Elgin State Hospital, has resigned to take effect March 1.

### Chicago

**Unlicensed Practitioner Fined.**—Mrs. Anna Binder, charged with practicing medicine without a license, is said to have been fined $100 and costs by Municipal Judge Scovell, February 8.

**Memorial Service for Dr. Brower.**—A memorial service for the late Dr. Daniel L. Brower will be held at the Church of the Epiphany at 10:45 a. m., February 27, the anniversary of Dr. Brower's death.

**Fraud Order Issued.**—The postoffice department is said to have issued a fraud order, February 17, against the Dr. Hall Electro-Vigor Company of Chicago, manufacturers of an electric belt, for which great healing claims are made.

**Examination for Assistant Commissioner.**—An examination was begun February 16 at the rooms of the civil service commission to fill the position of assistant commissioner of health, made vacant by the death of Dr. Frank W. Reilly. Three applicants appeared.

**Meeting of Medical Historians.**—The newly-organized Society of Medical History of Chicago held a meeting in the Auditorium February 19, with Dr. Isaac N. Danforth in the chair. Dr. Howard A. Kelly, Baltimore, delivered the address of the evening on "Hortus Siccus, a Nosegay from Old Times," in which he gave interesting sketches of some of the older American physicians who were interested in botany, and for whom flowers have been named. About seventy were present.

**Tuberculosis Is Not Reported.**—In a statement issued by the department of health, it is shown that of 326 who died from consumption during January, 176 had never been recorded at the health department while living, and that 84 others were not reported until within a month of death. There is no necessity for this neglect as patients who are unable to employ physicians may go to one of the seven dispensaries of the Chicago Tuberculosis Institute, and in addition the Department of Health furnishes tuberculin free to aid diagnosis, and will instruct physicians how to use it, or will send an expert to assist in the administration.

**Work of Tuberculosis Institute.**—At the annual meeting of the board of directors of the Chicago Tuberculosis Institute, held February 18, it was reported that 1,225,325 Red Cross Christmas stamps had been sold in Chicago, leaving more than $9,000 available for local use. The following officers and heads of departments were elected: President, Dr. Henry B. Favill; vice-presidents, Drs. Frank Billings and Robert H. Babcock; secretary, Mr. Sherman C. Kingsley; treasurer, Mr. David R. Forgan; head of the sanatorium department, Dr. Theodore B. Sachs; head of the dispensary department, Dr. Ethan A. Gray; and head of the educational department, Dr. Orville W. McMichael.

**Sanatorium for Patients of Moderate Means.**—Incorporation papers for the Valmora Industrial Sanatorium of New Mexico were filed February 14, by a group of Chicago physicians and business men. Among the directors are Drs. E. Fletcher Ingals, Edwin B. Tuteur, John M. Dodson, Charles L. Mix, and Frederick Tice. No capital stock was named as the organization is not for profit, and is expected to be self-supporting. A fund of $50,000 is to be raised for the purchase of Valmora Sanatorium and for immediate improvements. It is planned to allow the patients to pay their expenses in part in light labor. Poultry farming, truck farming, dairying and bee-keeping will be taught to the patients. At a meeting of the association, February 18, Dr. E. Fletcher Ingals was elected president, and Dr. Edwin B. Tuteur, secretary.

## MARYLAND

**Asks Appropriation for Library.**—A delegation from the Medical and Chirurgical Faculty of Maryland appeared before the senate finance committee, February 10, and asked for an appropriation of $10,000 for its library. For the two previous years $12,500 has been asked and obtained.

**Personal.**—Drs. Philip B. Housekeeper, North East, and W. T. Morrison, Elkton, have been appointed physicians of Cecil county.——Dr. James M. Corkran, Centerville, has been appointed school commissioner of Queene Anne's county.——Dr. Wright S. Sudler, Highlandtown, has been appointed coroner of the twelfth district, Baltimore county.——Dr. Z. Duvall, Ridout, St. Margarets, and his eleven-year-old daughter are undergoing antirabic treatment in Baltimore.

**Society Meeting.**—The Anne Arundel County Medical Society, at its meeting in Annapolis, reelected Dr. Thomas H. Brayshaw, Glenburnie, president; and elected Dr. Walton H. Hopkins, Annapolis, vice-president; Dr. Louis B. Henkel, Jr., Annapolis, secretary; Dr. Frank H. Thompson, Annapolis, treasurer; Dr. Jesse O. Purvis, Annapolis, censor; Dr. Charles R. Winterson, Hanover, delegate to the Medical and Chirurgical Faculty of Maryland, and Dr. Samuel H. Anderson, Woodwardsville, alternate.

### Baltimore

**Portrait Presented.**—At a meeting of the Baltimore City Medical Society, February 18, a portrait of the late Dr. William Riley was presented to the Medical and Chirurgical Faculty of Maryland by Dr. William E. Mosely, Jr., a grandson of Dr. Riley, and was accepted for the faculty by its president.

**Public Instruction.**—The committee on public instruction of the Medical and Chirurgical Faculty of Maryland has arranged a series of seven lectures to be given weekly in Osler Hall. The subjects treated will be pure food and drugs, preventable blindness, sewerage disposal, water supply, infant mortality, and modern methods in mental diseases, etc.

**Banquet to Dr. Welch.**—A testimonial banquet will be tendered Dr. William H. Welch of Johns Hopkins University, April 2. More than one hundred persons are expected to unite in this tribute to his achievements in medicine and in the expression of admiration and love to this representative American physician. Gold portrait medallions of Professor Welch will be presented to Professor Welch, Johns Hopkins University, and the Medical and Chirurgical Faculty of Maryland.

**Personal.**—Dr. Ernest J. Becker was elected president of the German Historical Society of Maryland, February 15.——Dr. Thomas S. Cullen has been awarded a gold-headed cane, given by Mr. P. C. Larkin, vice-president of the General Hospital, Toronto, for the best contribution to medical literature made by an ex-house surgeon of that hospital. Dr. Larkin's article was on "Adenomyoma."——Dr. Robinette B. Hayes and T. Marshall West of the staff of the University Hospital will leave in a few days for Fayetteville, N. C., where they will assume charge of the Marsh Hospital.

## NEW JERSEY

**Expectorators Pay Fine.**—Twenty-seven men recently arrested in Newark for violation of the anti-spitting ordinance, pleaded guilty and were fined $10 each in the police court.

**Personal.**—Dr. William H. Shipps has been elected health officer of Bordentown.——Dr. and Mrs. Edmund L. B. Godfrey, Camden, are spending the winter in Southern California.——Dr. Horace G. Norton, Trenton, has been elected secretary of the State Board of Medical Examiners, vice Dr. Edmund L. B. Godfrey, Camden, resigned on account of continued ill health.——Dr. William H. Murray has been elected a vice-president, and Dr. Benjamin Van D. Hedges, secretary of the Antituberculosis Society of Plainfield and New Plainfield.——Dr. Henry J. F. Wallhauser has been elected president, Dr. Henry A. Towle, vice-president, Dr. William Gauch, secretary, and Dr. Louis A. Koch, treasurer of the medical board of the Newark City Dispensary clinics.——Dr. Charles F. Hill has been appointed a district physician of Newark.——Dr. Charles A. Rosenwasser, Newark, announces that he has established an office in New York City.

**Society Meetings.**—Orange Mountain Medical Society, at its annual meeting, elected the following officers: *President*, Dr. Richard P. Francis, Montclair; vice-president, Dr. Richard D. Freeman, South Orange; secretary, Dr. Levi W. Halsey, Montclair; treasurer, Dr. J. Minor Maghee, West Orange (reelected); executive committee, the president, secretary, and Drs. Walter Dodge, Orange, and Arthur W. Bingham, East Orange, and censors, Drs. Mefford Runyon, South Orange, and William H. White, Bloomfield.——At the annual meeting of Gloucester County Medical Society, held in Woodbury, the following officers were elected: President, Dr. Cyrus B. Phillips, Pitman; vice-president, Dr. J. Harris Underwood, Woodb [illegible] er, Dr. George E. Reading, Woodbury; [illegible] A. Wilson, Woodbury; censors, Drs. James Hunter, Jr., Westville, Luther M. Halsey, Williamstown, and Harry A. Stout, Wenonah; and delegate to the state society, Dr. Charles S. Heritage, Glassboro.

**Pediatric Society Organized.**—The New Jersey State Pediatric Society was organized in Newark, February 3, with 34 charter members. The objects of the society are to unite the qualified physicians of the state for the scientific study of diseases of infancy and childhood, to promote by its concerted efforts scientific medical research in the department of pediatrics, to foster greater interest in pediatrics among general practitioners, to study the problems of infant mortality and to popularize a knowledge of infant hygiene and the means for the protection of child life. The annual meeting will be held in Atlantic City on the day preceding the meeting of the state medical society. In order that the society may fulfil its obligations to the profession and indirectly to the public, a series of meetings will be organized in four different parts of the state during the year, when papers designed to instruct the general practitioner in the principles and practice of scientific medicine among children will be presented by well-known authorities on pediatrics. The following officers were elected: President, Dr. Henry L. Coit, Newark; vice-president, Dr. Alexander McAlister, Camden; secretary, Dr. Martin J. Synnott, Montclair; treasurer, Dr. Benjamin Van D. Hedges, Plainfield, and councilors, Drs. J. Finley Bell, Englewood, Thomas N. Gray, East Orange, Burdette P. Craig, Jersey City, Emery Marvel, Atlantic City, and Francis H. Glazebrook, Morristown.

## NEW YORK

**Honor Dr. Trudeau.**—Many men and women of prominence met at Saranac Lake recently to celebrate the silver anniversary of the First Open Air Sanatorium and many others from all parts of the civilized world sent messages of congratulation to Dr. Edward L. Trudeau. Dr. Trudeau made an address in which he gave the history of his pioneer work in the open-air treatment of tuberculosis in America.

**Communicable Diseases for 1909.**—There were 461 cases of smallpox reported, half as many as in 1908. About 8,000 cases of typhoid fever were reported, of which 3,700 were in New York City. There were 16,186 cases of diphtheria in the city of New York and 4,500 in the rest of the state, practically the same as in the year 1908. In 1908 there were 30,400 cases of scarlet fever reported; in 1909, 22,100. About 50,000 cases of measles were reported, with 1 death to 40 cases. There were 484 cases of cerebrospinal meningitis reported, and 323 deaths. There have been reported 40 cases of ophthalmia neonatorum outside New York City; this is the first year that such a report has been required. The total mortality from epidemic diseases was 9,025, or 6.5 per cent. of the deaths from all causes. There were 7,864 deaths from diarrhea and enteritis under two years of age, 1,247 less than in 1908. The childhood mortality was a little under that of 1908. Pulmonary tuberculosis caused 13,948 deaths. During the last twenty-five years, during which the population has increased from 5,600,000 to 8,600,000, there have been 330,000 deaths, a yearly average of 13,200. For the entire period there have been about 180 deaths per 100,000 annually; in 1909, 160. Pneumonia caused 9,400 deaths, 773 more than in 1908. From other diseases of the pulmonary organs there were 11,381 deaths. Cancer caused 7,034 deaths. Violence caused 9,199 deaths. The total mortality from all causes was 139,783, a death rate for the year of 16.1 per 1,000. There were 200,865 births reported and about 80,000 marriages.

**Is Cancer Cure Near?**—A hope of greatly ameliorating the condition of cancer patients and perhaps of curing many is held out by the report of Dr. Harvey J. Gaylord, director of the Cancer Laboratory of the State Department of Health at Buffalo. This hope is based on inoculation experiments, mainly with rats, with the cancer virus. The report states that where resistance of the animal is not sufficiently awakened by one inoculation of the tumor this resistance can be increased by repeated doses, and in a considerable proportion of cases immunity can be raised to a point that will bring about a cure. The report urges on the legislature that the time has come when experimentation should be begun on human beings. To do this it is necessary that a number of patients shall be maintained for the purpose. It is impossible to undertake work of this kind unless a sufficient number of patients can be placed under observation, to make the figures sufficiently conclusive to corroborate any conclusions which may be reached. A fund sufficient to maintain ten such patients is the least amount that can be of value if this work is to be undertaken. Other investigations of far-reaching importance were conducted by the laboratory in regard to the prevalence of many forms of cancer in fish. It was a very remarkable coincidence that the area of the United States which includes the greatest concentration of human cancer cases, is almost identical with the area through which the various members of the trout family, which are frequently affected by cancer of the thyroid, is distributed. This suggests the theory of a possible distribution of cancer through water. Statistics show that cancer continues to increase. The increase in the United States has been from 9 per 100,000 population in 1850 to 43 per 100,000 in 1900, an average of 65 in 1901, and of 70 in 1906. In the year 1909 there were 7,034 cases of cancer reported in New York State.

**The Work Against Tuberculosis in Buffalo.**—The report of Dr. Francis E. Fronczak, acting health commissioner of Buffalo, received February 21 by the State Charities Aid Association, covers a period of three months from Oct. 1 to Dec. 31, 1909. During this period, 347 individual houses were inspected, 290 were investigated after removals, and 117 after deaths of persons from tuberculosis. During that time, 159 disinfections and 153 fumigations were made to prevent the spread of the disease. During 1907, only 540 living patients with tuberculosis were registered; in 1908, after the law drafted by the State Charities Aid Association, came into effect, there were 740 living patients reported and in 1909, 1,183 living were reported. Of these 1,183 cases, 452 were reported since the appointment of inspectors, Oct. 1, 1909. During the year there were 523 deaths from tuberculosis as compared with 535 in the previous year. Already more than two living patients with tuberculosis are reported for every death, whereas two years ago the deaths greatly exceeded the reported living patients. The following brief summary is presented to show what Buffalo has done to control tuberculosis:

1. All cases must be reported to the Health Department within 24 hours of their discovery on blanks furnished by the department.

2. The department furnishes each patient, free of cost, a complete "hygienic outfit" consisting of sputum cups and cup holder, paper napkins and water proof bags, and replaces same as often as necessary. Other assistance is also provided, as indicated.

3. All deaths or removals must be recorded within 24 hours.

4. Card indexes are kept of all cases, with their history.

5. The department employs two inspectors to visit homes where death or removal has occurred, to instruct; to enforce disinfection and renovation.

6. No house or premises may be reoccupied until proper disinfection and renovation have been done.

7. The inspectors visit patients who have no physician, to give instructions and to furnish patients with circulars of information.

8. The Buffalo Association for the Relief and Control of Tuberculosis conducts the following: (a) The Day Camp; (b) tuberculosis classes; (c) tuberculosis dispensary; (d) the district nurses; (e) educational work.

9. The Charity Organization Society is furnishing food and raiment to many needy tuberculous families.

10. The city is about to erect a hospital for the care and treatment of incipient cases. This will be at Perrysburg, N. Y., 40 miles from the city.

11. Advanced cases are accommodated at the Erie County Hospital.

12. The bacteriologic examination of the sputum is available to any citizen without charge.

13. Ordinance regulations:

(a) Spitting in public places is prohibited.

(b) Meat sold in Buffalo must bear the approval of the federal or city inspectors.

(c) Ordinances regarding ventilation, light and general sanitary conditions are strictly enforced.

14. Outdoor life is encouraged. Buffalo has a large park area, and at present 7 playgrounds; 3 additional playgrounds will be added next summer.

15. Personal cleanliness is encouraged. We have two free public bath houses, both of which have laundries attached, situated in the densly populated parts of the city. A free bathing beach is open during the summer.

16. Educational work.

### New York City

**Alumni Dine.**—The annual dinner of the Association of the Alumni of Mount Sinai Hospital, held at the Hotel Knickerbocker, February 26, was in commemoration of the fiftieth anniversary of the connection of Dr. Abraham Jacobi with the hospital.

**Off for Convalescent Home.**—The first lot of 27 children, selected from the schools of the city in response to the report that a large number of school children were physically unfit to make use of the instruction offered, were sent to the Convalescent Home of the Children's Aid Society near Chappaqua, N. Y. There were selected 209 children from six schools as in need of such care as the home provides, and as soon as the children recently sent are restored to health their places will be taken by others on the waiting list.

**Early Still a Leper.**—The committee of three doctors an two lawyers appointed by the Society of Medical Jurisprudence last December to investigate the case of John R. Early the alleged leper, made a report which was submitted at meeting of the society at the Academy of Medicine Februar 14. The first report of the committee was confirmed, an Early was pronounced a probable leper. Dr. L. Duncan Bulkley, who has insisted all along that the case was not one leprosy, asked for a further investigation. The report of th committee was accepted without any judgment on the cas being expressed by the society as a whole.

**New Harbor Hospital.**—By March 1 Health Officer Doty wi have completed and prepared for occupancy a hospital an four pavilions for the isolation and treatment of measle scarlet fever, diphtheria and chicken pox. Cases of the diseases have hitherto been allowed to go on ship to t pier and there were turned over to the board of health of the city. It was thought that the detention of these cases at quarantine would give better protection to the public. This hospital with the four pavilions will accommodate 300 patients and the total cost has been something less than $230 a bed, which is said to be much less than the usual cost of such institutions.

**Gifts to Charity.**—The will of Charlotte A. Vanden Heuval gives $5,000 to each of the following institutions: The Association for Improving the Condition of the Poor, Daisy Fields Home and Hospital for Crippled Children and Messiah Home for Little Children.——The will of Rosalie King gives $1,000 to Mount Sinai Hospital and the same amount to the Home for the Aged and Infirm Hebrews and Montefiore Home. Beth Israel Hospital and the United Hebrew Charities each receive $500.——The proceeds of the German Charity Ball amounted to $10,765, of which sum $10,600 will be distributed among various hospitals and societies.——The Hospital Saturday and Sunday Association announced at their thirty-first annual meeting that the general collection was larger this year than last, though the exact amount could not as yet be announced; last year it amounted to more than $100,000.

## NORTH CAROLINA

**Personal.**—Dr. James G. Anderson, Asheville, has been appointed director of the State Hospital for the Insane, Goldsboro.——Dr. Slocomb R. Edwards, Siler City, has been appointed medical superintendent of the Presbyterian Eye, Ear, Nose and Throat Hospital, Baltimore.

**Antituberculosis Program.**—The North Carolina Association for the Prevention of Tuberculosis is to meet in Greensboro, March 15 and 16. Men from other sections of the state have been selected to speak on various phases of tuberculosis, and officers of the national association and delegates from other states will be present and speak on the national crusade against the disease.

**Society Adopts Resolutions.**—Guilford County Medical Society, at a recent meeting in Greensboro, adopted resolutions condemning the secret method the police officers of that city have employed to secure evidence against physicians alleged to have violated the state prohibition laws. The society also approved the resolutions adopted by the state medical society condemning the violations of the provisions of the prohibition laws, and urged the examining board to revoke the licenses of all convicted physicians. The society adopted resolutions forbidding any Greensboro druggist from exhibiting to any police or other city official any physician's prescription without first securing from the physician or patient an order permitting such examination.

## OREGON

**Hospital News.**—The Dalles Hospital has recently been enlarged and remodeled and now has a capacity of 75 beds.——The Carlsbad Hot Springs Sanatorium, North Powder, is now under active construction. The buildings, which will cost $250,000, are expected to be ready for occupancy in August.

**Dispensary Staff.**—The Portland Free Dispensary opened January 12, with the following staff: Drs. Kenneth A. J. Mackenzie, Otis B. Wight, George S. Whiteside, Alvin W. Baird, N. Wiley Jones, Edna D. Timms, Otis F. Akin, Frank M. Taylor, C. Gertrude French, Clarence J. McCusker, George F. Koehler, Donald Jessup and Norman Pease.

**Willamette Valley Physicians Meet.**—The Central Willamette Valley Medical Association, composed of physicians of Linn, Benton and Lincoln counties, at its recent meeting in Albany, elected Dr. William H. Dale, Harrisburg, president; Dr. Joel C. Booth, Lebanon, vice-president; Dr. Henry J. Kavanagh, Albany, secretary; Dr. Matthew H. Ellis, Albany, treasurer, and Dr. Albert G. Prill, Scio, delegate to the state society.

**Suit Against Physicians Fails.**—The damage suit of Floyd D. Moore against Drs. Francis G. Swedenburg, Ashland, and Joseph S. Herndon, Sacramento, Cal., in which the plaintiff claimed $17,000 damages on the allegation that the effects of an operation performed on him had been injurious, that he had been neglected in the hospital, and had been given an overdose of a poison by a nurse, collapsed before it reached the jury on account of lack of evidence.

**Medical Reserve Corps for Oregon.**—A general order has been issued creating a medical reserve corps of twelve surgeons, graduates of reputable medical schools, named by the governor on the advice and recommendation of the general staff, and receiving commissions as first lieutenants only after passing examination. Members of the corps will be appointed at stations where one or more companies of the national guard are located. Their work will be examination of applicants for enlistment and such other duties as pertain to surgeons of the state militia.

**Personal.**—Ernest H. Parker, Portland, who has been critically ill with pneumonia at Avalon, Cal., is reported to be improving.——Dr. Robert J. Conroy, Medford, has been appointed local surgeon for the Pacific and Eastern Railroad.——Dr. Calvin S. White, Portland, has been elected secretary of the State Board of Health, vice Dr. Robert C. Yenney, Portland, resigned.——Dr. Harvey J. Clements, pathologist of the Oregon State Insane Asylum, Salem, has been elected medical director of the State Tuberculosis Sanatorium, which is located in the old Deaf Mute School building south of the city. The state tuberculosis commission includes Drs. Willis B. Morse, Salem, and Calvin S. White, Portland.

## PENNSYLVANIA

**Society Will Publish Monthly Magazine.**—At the February meeting of the Bucks County Medical Society, held in Doylestown, it was decided to publish a monthly bulletin for the benefit of the members. A committee of four was appointed to formulate plans for the publication of this bulletin.

**Medical Society Elections.**—At the annual meeting of the staff of the Pittsburg and Lake Erie Railroad, held February 10, the following officers were elected: Dr. John D. Milligan, Pittsburg, president; Drs. Jefferson H. Wilson, Beaver, and John A. Barr, McKee's Rocks, vice-presidents, and Dr. Edward M. Hand, Coraopolis, secretary-treasurer.——At the annual meeting of the Pottsville Medical Club, February 10, the following officers were elected: Dr. J. Harry Swaving, president; Drs. George R. S. Corson and Merchant C. Householder, vice-presidents; Dr. John J. Moore, secretary-treasurer, and Drs. George H. Boone, Patrick H. O'Hara, and Joseph G. Kramer, censors.

### Philadelphia

**Gifts to Colleges.**—The Philadelphia College of Physicians has been given $75,000 by an anonymous donor through Dr. S. Weir Mitchell.——A gift of $100,000 has been received by the University of Pennsylvania to endow a chair in the medical department.

**Personal.**—Dr. S. Weir Mitchell celebrated his eightieth birthday anniversary February 15.——As a token of esteem and admiration to their retiring chief, the medical staff of Henry Phipps Institute gave a testimonial dinner in honor of Dr. Lawrence F. Flick, February 1, presenting him with a massive silver loving-cup. The presentation speech was made by Dr. Daniel J. McCarthy.——Dr. Joseph Price, who has been seriously ill at his summer home in Whitford with septicemia, is reported to be improving.

**Medical Department of Library.**—It is announced that there will be added to the free library of Philadelphia an additional alcove for the exclusive use of books, pamphlets and papers on the practice of medicine and kindred branches. This action was the outgrowth of a consultation between the library authorities and a committee of the Philadelphia County Medical Society, composed of Dr. James M. Anders, chairman, and Drs. Edmund E. Montgomery, Charles A. E. Codman, M. Howard Fussell, Albert M. Eaton, A. Bern Hirsh, Herman B. Allyn and Henry Leffmann.

## RHODE ISLAND

**Money for Hospitals.**—By the will of the late Mrs. Eveline A. Cozzens, a colored woman of Providence, $3,000 is bequeathed to the Rhode Island Hospital.——By the will of the late Dr. Robert Millar, Providence, $8,000 is devised for the endowment of a permanent free bed in the Rhode Island Hospital.

**Personal.**—Dr. George H. Kenyon, Providence, surgeon-general of the Rhode Island National Guard, will, it is believed, be obliged to resign on account of continued ill health.——Dr. Alanson D. Rose, Manton, has been seriously ill with septicemia, due to an operation wound.——Dr. George A. Matteson has been appointed visiting physician to the Rhode Island Hospital, vice Dr. Donald Churchill, deceased.

**The Work Against Tuberculosis.**—Through the combined activities of the Rhode Island State Board of Health and the Rhode Island Antituberculosis Association arrangements are being made to send the state tuberculosis exhibit to every town and city in the state not yet reached in this campaign.——The trustees of the State Sanatorium for Tuberculosis, Wallum Lake, recommend the building of an infirmary and entertainment hall, better quarters for employees, and that the buildings be put in proper repair.

**Society Meetings.**—At the annual meeting of the Washington County Medical Society, held in Westerly, the following officers were elected: President, Dr. Frank C. Pagan, Westerly; vice-presidents, Drs. Edward E. Kenyon, Usquepaugh, and John L. May, Westerly; and secretary-treasurer, Dr. J. Howard Morgan, Westerly.——At the annual meeting and banquet of Kent County Medical Society, held in Arctic Centre, Dr. John A. Mack, Crompton, was elected president; Dr. William S. Reoch, Phenix, vice-president; Dr. Thomas F. Darby, River Point, secretary; Dr. Frank D. Smith, *Washington, treasurer*; Dr. Warren E. Page, Phenix, delegate to the state medical society; Dr. Ira D. Hasbrouch, Washington, councilor; and Dr. *Fenwick D. Taggart, East Greenwich, censor.*

**State Society Appoints Delegates.**—At the quarterly meeting of the Rhode Island Medical Society, held in Providence, Drs. William J. McCaw and William McDonald, Jr., Providence, were appointed delegates to the United States Pharmacopeial Convention, Washington; Drs. William B. Cutts and V. Lee Fitzgerald, Providence, to the Maine Medical Society; Drs. Harlan P. Abbott and G. Edward Buxton, Providence, to the New Hampshire Medical Society; Drs. George B. Haines, Valley Falls, and Nelson R. Hall, Warren, to the Vermont Medical Society; Drs. Charles H. Leonard and George T. Spicer, *Providence, to the Connecticut Medical Society; Drs.* Robert F. Noyes, Providence, and Alexander C. Sanford, Newport, to the Massachusetts Medical Society; Drs. Henry A. *Jones, Howard, and D. O. Kidd to the Medical Society* of the State of New York, and Drs. John W. Keefe and John T. Farrell, Providence, to the Medical Society of the State of New Jersey.

## GENERAL NEWS AND COMMENT

**Personal.**—Dr. James T. Wayson, Hololulu, for several years a member of the board of health of that city, has retired to become superintendent of the Kilihi Hospital. Dr. William C. Hobdy, *P. H. and M.-H. Service*, has succeeded Dr. Wayson as a member of the board of health.

**Hygiene Congress Postponed.**—By joint resolution, February 3, Congress has postponed until some time in 1911 or 1912 the International Congress of Hygiene and Demography which was to have been held this year. The President is to designate where the congress shall be held; cities, therefore, may apply for the privilege of receiving it.

**Mexican Society Meets.**—The International Medical Association of Mexico, which held its annual meeting in Aguascalientes January 25-27, elected the following officers: Dr. C. E. Husk, Santa *Barbara, president*; Dr. Frederick W. Taube, Zacatecas, vice-president; Dr. J. S. Steele, Monterey, secretary-treasurer; Drs. Robert Griewe, Santa Barbara, and H. D. Eaton, *Chihuahua, censors, and* Drs. R. D. Robinson and W. R. Jamieson, Torreon, editors of the annual (reelected). The association will meet in Juarez next year.

**Tri-State Association Meeting.**—At the twelfth annual session of the Tri-State Medical Association of the Carolinas and Virginia, held in Richmond, Va., February 15-17, the following officers were elected: President, Dr. Joseph A. White, Richmond, Va.; vice-presidents, Drs. Joseph Graham, Durham, N. C.; Thomas P. Whaley, Charleston, S. C., and Samuel Lile, Lynchburg, Va.; secretary-treasurer, Dr. J. Howell Way, Waynesville, N. C. (reelected), and executive council, Drs. Harry T. Marshall, Charlottesville, Va.; Carl V. Reynolds, Asheville, N. C.; Harvey E. McConnell, Chester, S. C.; James S. Irvin, Danville, Va.; Andrew J. Crowell, Charlotte, N. C.; Archibald E. Baker, Charleston, S. C.; Robert C. Bryan, Richmond, Va.; Henry T. Bahnson, Winston-Salem, N. C., and Rolfe E. Hughes, Laurens, S. C. The following committee on cancer education was appointed: Virginia; Drs. Southgate Leigh, Norfolk, Stephen Harnsberger, Catlett, and J. Shelton Horsley, Richmond; North Carolina, Drs. Hubert A. Royster, Raleigh, James E. Stokes, Salisbury, and W. E. Ragland; and South Carolina, Drs. LeGrand Guerry, Columbia, Charles F. Williams, Columbia, and Charlton E. Gamble, Turbeville. The next meeting of the association will be held in Raleigh, N. C., in February, 1911.

**Society to Prevent Infant Mortality.**—The first meeting of the executive committee and board of directors of the recently organized Association for the Study and Prevention of Infant Mortality was held at the building of the Medical and Chirurgical Faculty of Maryland, February 9. The necessity of the prompt and accurate registration of births was recognized as *the fundamental* element in the campaign. Dr. John S. Fulton was made chairman of a committee to enlist *the* cooperation of state and municipal boards of health throughout the country, to promote the enforcement of laws in communities where such laws are on the statute book, and urge the enactment of the necessary legislation in other localities. A committee composed of Drs. Mary Sherwood, Baltimore, Miss M. Adelaide Nutting, New York City, and Mr. Homer Folks, secretary of the New York State Charities Aid Association, was appointed to outline plans for nurses' associations, social workers, milk stations and other similar organizations. Drs. Lillian Welsh, Baltimore, and Joseph S. Neff, Philadelphia, were made chairmen of committees *to map out* plans for the membership campaign. The association is national in scope, and the plans embrace a campaign of study and prevention analogous *to that of the National Association* for the Study and Prevention of Tuberculosis. Its work is divided into the following sections: state, federal and municipal prevention, presided over by Dr. William H. Welch, Baltimore; medical prevention, presided over by Dr. L. Emmett Holt, New York City; educational prevention, presided over by Dr. Helen C. Putnam, Providence, R. I.; and philanthropic prevention, presided over by Hastings H. Hart, New York City.

## CANADA

**Personal.**—Dr. Helen MacMurchy, Toronto, has been appointed by the Toronto Board of Education to examine about 100 mentally defective children attending the public schools of Toronto.——Dr. J. J. Guérin, Montreal, has been elected mayor of that city. Dr. Emmanuel P. Lachapelle, Montreal, chairman of the Quebec Board of Health, has been elected a member of the new board of control of that city.——Drs. Rodolphe Boulet and Louis de L. Harwood, Montreal, have returned from a trip to Cuba and Mexico.

**Rabies in Ontario.**—*Several members of the Toronto Academy* of Medicine, headed by the president, Dr. Alexander McPhedran, recently waited on the Ontario government and strongly *advocated the establishment in Ontario of a Pasteur* Institute, in view of the widespread outbreak through western Ontario of rabies, as about fifty persons in the last three years who have been bitten by dogs have had to go to New York for treatment. It is understood that the government will make a preliminary grant of $1,000 for the purpose.

**New Legislation.**—The Ontario osteopaths have introduced a bill before the legislature to secure the provincial incorporation of a college of osteopathy in either Toronto or Hamilton. The Ontario Medical Council and the Toronto Academy of Medicine will oppose the measure.——To abolish *compulsory vaccination in Ontario* is the aim of a bill before the Ontario legislature. The bill seeks repeal of the present act and to leave to each person to decide whether he will or *will not be vaccinated.*——The Ontario Medical Council is discussing the proposed amendments to the Ontario Medical Act with the Ontario government. Among the profession there is *a great deal of discontent* over university *representation.* The council wants the power to deal immediately with all cases of unprofessional conduct arising among members of the college which may be considered in the light of disgraceful conduct in a professional sense, instead of as now waiting until the annual meeting in July.——One medical member of the *Ontario legislature* has a *bill before that body* which will seek to prevent the propagation of criminals, idiots and the like. The measure is based on the Indiana act.

**Hospital Notes.**—The new Lady Grey Hospital, Ottawa, was opened February 11, through the efforts of the Ottawa Anti-Tuberculosis Society.——Dr. T. J. W. Burgess, superintendent of the Protestant Hospital for the Insane, Verdun, Quebec, says there is great need for a society to watch over patients discharged from that institution. During the past year there were 197 admissions and the total number of patients was 783, the largest in the history of the institution.——A new wing is to be built to the Toronto Isolation Hospital so that there will be better facilities in that city for the treatment of infectious diseases. The estimated cost is $102,000, and it will *accommodate* 100 additional patients.——The Montreal Emergency Hospital for typhoid fever patients has treated 119 patients since it was opened a few weeks ago. Of the cases 89 per cent. were found to be of a virulent type.——According to the eighth annual report of the Vancouver General Hospital, there were treated in that institution during the past year *3,842 patients, as compared* with 2,554 in 1908.——The Toronto General Hospital treated during the year ending Sept. 30, 1909, 5,104 patients. There were 302 births in *the institution.* The cost per adult patient per day was $1.37.——Mr. J. C. Eaton, Toronto, has donated a quarter million dollars to build the surgical wing of the new Toronto *General Hospital, in commemoration* of his father, the late Mr. Timothy Eaton.——The Toronto City Council favors an additional grant of $200,000 to the Toronto General Hospital, and the matter will be submitted to the rate-payers at an early date.

## FOREIGN

**Deaths Abroad.**—Among recent deaths of English physicians which have not been mentioned elsewhere are those of Mr. William Warrick Wagstaffe, F.R.C.S., Eng., an anatomist of more than ordinary ability, who died in Sevenoaks, Kent, January 22, aged 67, from paralysis; Mr. William Ilbert Hancock, F.R.C.S., Eng., assistant surgeon to the Royal London Ophthalmic Hospital, and formerly dean of the staff of the Central London Ophthalmic Hospital, who died January 26 from pulmonary embolism, five days after an operation for appendicitis, aged 36; Surgeon General Charles Dodgson Maddon, D.S.O., honorary surgeon to the king, who was graduated from Trinity College, Dublin, entered the army in 1854, and died in Leonards-on-Sea, aged 76; and Lieutent-Colonel Campbell Mellis Douglas, brigade surgeon R.A.M.C., retired, who was awarded the Victoria Cross in 1867, and died Dec. 31, 1909, aged 69.

## BERLIN LETTER

*(From Our Regular Correspondent)*

Berlin, Feb. 2, 1910.

### Personals

Privy councillor Schmidtmann has been elected president of the German Society of Public Health (*Deutsche Gesellschaft für öffentliche Gesundheit*) in place of the deceased Wehmer. The society has also elected the city councillor Marggraf as an honorary member in recognition of his services in the interest of public health in Berlin, particularly by the establishment of sewage farms.——Privy councillor Bäumler of Freiburg was elected an honorary member of the balneological society.——The philosophical faculty of Heidelberg has conferred the honorary title of doctor on Dr. Höfler of Bad Tölz on account of his excellent work in the field of medical history.——Professor Strauss, for many years an assistant of Senator, has been chosen as the successor of Prof. J. Lazarus as director of the medical section of the Jewish hospital.——Privy councillor Steffen, a well known pediatrician, died January 7, at the age of 84.

### Tuberculosis in Berlin

At the last meeting of the society for social medicine Professor Kayserling, who is a well known worker in the field of tuberculosis hygiene, delivered an address on the repression of tuberculosis in Berlin and made some suggestions which are worthy of note. In the campaign against tuberculosis experience shows that two ends are to be sought: the protection of the healthy from infection and the treatment of tuberculosis patients. From his observations, dwellings of one room are the worst foci for tuberculosis but the danger of infection of healthy individuals in other dwellings is a matter calling for especial care by the sanitary authorities. The housing problem is therefore an important matter with reference to the protection of healthy people from infection. The disinfection of rooms and the protection of healthy people living in them is constantly a matter of care for the hygienic stations and for the national insurance societies. The best measure against the disease, namely, the isolation of all tuberculous patients who expel tubercle bacilli, is unfortunately not practicable. Healthy children must be protected by sending them to the forest convalescent stations and outdoor schools. The effort should be made, as in France, to place children in families in the country. Moreover the matter of disinfection must be improved. In the last year disinfection was carried out in only 2,100 cases of tuberculosis in Berlin, while 3,900 deaths from the disease were recorded. Although some of the tuberculous in whose cases disinfection was not undertaken died in the hospitals, yet these figures show that disinfection needs more careful attention. This measure should be applied whenever a patient capable of communicating the disease is transferred to a hospital or changes his residence. Disinfection must be free of charge, which has hitherto not been the case with tuberculosis. Hospitals for advanced tuberculosis should be built which will be acceptable to the patients and which are so arranged that they do not endanger the nursing force. A further urgent need is the provision of a sanitary working environment for infectious tuberculous patients who are able to work.

### School Nurses

The experience of school physicians that very many ailing children remain without medical treatment in spite of repeated warning from the school physician, has led to the installation of school nurses in several German cities, as is the case in some other countries, especially in America. The functions of the school nurses in Charlottenburg are as follows: They are to visit the homes of the parents of such school children as receive no medical treatment in spite of repeated warnings, and to endeavor to induce the parents to follow the advice of the school physicians. They are expected to learn whether there are any reasons which hinder the parents from adopting the requisite steps to secure the health of their children. If the parents cannot go with the child to the physician, the school nurse is to relieve them of this task. With the permission of the parents the nurse is to take the child to the physician who it has been agreed shall treat it, receive the instruction of the physician, return with the child to its home and instruct the parents in regard to the treatment. If the nurse learns that the parents have not the means to purchase the bandages, medicines, etc., ordered she shall endeavor to provide them with the help of the city physician. If a child in the school is noticeable for its uncleanliness or insufficient clothing or poor nutrition, the nurse is to inform herself regarding the economic status of the parents and the housing and nutritive condition of the child and make appropriate suggestions for the relief of the situation. In some circumstances she is to free the children from vermin. If the house or the linen, etc., are the habitat of the vermin, she is to provide for their cleansing through the municipal disinfection institute. Altogether the field of labor of the school nurse is chiefly in the home of the pupils; only exceptionally she has anything to do in the school itself. She receives instruction only from the school physician and does not work independently but only under his advice and oversight. She must not undertake to give advice regarding the treatment of diseases or of patients. Opinions which have so far been expressed by school physicians regarding the arrangement, which has now been in vogue for two years, are favorable.

### Society Jubilees

Berlin is to have a jubilee year in 1910 as a whole series of memorial celebrations will occur in this year, chief of which is the centennial of the Berlin university. This series of memorials was inaugurated by the centennial celebration of the founding of the Hufeland society and the society for natural and medical sciences. February 1 a brilliant meeting of the first named society took place. The president of the society, Prof. v Hansemann, gave a historical review of the development of the society and combined with it a eulogy of its founder. In 1810 Hufeland founded the society as the "medico-chirurgical society" after the plan of Goethe's *Freitagsgesellschaft* of which he was a member. On the fiftieth anniversary of his doctorate in 1833, the society received the name of the *Hufelandische Gesellschaft*. The members met at Hufeland's house, heard lectures, and reported clinical cases, epidemics, etc. The thirtieth year of the nineteenth century marked the culmination of the society. The troubles of 1848 did not fail to have their effect upon it; its sixtieth and seventieth year brought new difficulties. By union with other medical societies (finally with the *Demonstrationsgesellschaft*) new blood was infused into it. Now it has a splendid membership (348). Prof. v. Hansemann lauded Hufeland as a model for the medical profession and for medical science. He was distinguished by his philanthropy and helpfulness toward the poor and humble. Professor Strauss spoke of Hufeland as a theorist and as a practical physician. Hufeland chose for his motto: The physician should be the servant and not the master of Nature. This gifted man was already an advocate of the hardening process and of baths and the hydropathic treatment of inebriety. It is worthy of notice to-day, in the era of specialties, that Hufeland advocated the instruction of all-around physicians (*Vollärzte*) not of physicians for a part of the body only. The final reason for his popularity lies in the remarkable force of his medical personality, and even to-day Hufeland may serve as a model for every physician in the way in which he followed his calling. Finally Professor Brieger, the president of the balneologic society, which developed from the Hufeland society, spoke of the importance of Hufeland for balneology. On the occasion of the jubilee the Hufeland society elected the following as honorary members: Robert Koch, Erb (Heidelberg), Lord Lister (London), Franz König and W. A. Freund (Berlin). The following were elected as corresponding members: v. Eiselsberg (Vienna), F. v. Korânyi (Budapest), Bouchard (Paris), Kocher (Bern), Pawlow (Petersburg), Homén (Helsingfors), Hansen (Bergen), Retzius (Stockholm), Morpurgo (Turin) and Welch (America). A few days after the Hufeland society the society for natural and medical sciences (*Natur- und Heilkunde*) celebrated its centennial. This society, which is more strictly of a professional and private character than the Hufeland society, was founded 100 years ago by 15 distinguished physicians and has during its existence counted as members some of the most noted of the Berlin profession. At present its president is Prof. Waldeyer.

### Suicide in Prussia During 1907

According to official statistics for the year 1907, 7,643 persons, 5,844 men and 1,799 women, committed suicide. The number of suicides increases from year to year. In 1878 it was only 4,689; in 1888, 5,393; in 1898, 6,361. In thirty years it has risen from 17.7 to 20.2 per 100,000 living. There are each year nearly four times as many among men as women. More than a fourth of the suicides are undoubtedly caused by mental disease, and of the other suicides a large number are dependent on psychic causes. Insanity appears as the cause much more frequently among women than among men. Two-thirds of the men and half the women hang themselves, one-third of the women, but only one-eighth of the men drown themselves. With increasing age the tendency to suicide increases. Among the men the largest number of suicides occurred in July, among the women in May and the smallest in both sexes in February. The frequency at different times of the day is: forenoon, afternoon, night, evening, midday, and shortly after sunrise. As in regard to the months, the examination of the hour shows that the higher temperature is undoubtedly favorable to suicide. As to the day of the week, social reasons seem to be distinctly active. The day most frequently chosen is Monday, probably because it follows the revelry of Sunday. The fewest suicides occur on Saturday, ostensibly because the wages are paid on that day and Sunday is to follow. How far these considerations are really the effective ones must be determined by the observation of more cases.

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**The Physiologic Importance of Colloids.**—An interesting paper on colloids by Henry Leffmann appears in the *Proceedings of the Pathological Society of Philadelphia*, December, 1909. The nature of colloids was first defined by Graham, who divided bodies according to their power to pass through animal membranes into crystalloids which pass readily and colloids which pass with difficulty or not at all. The colloids are mostly animal substances but inorganic substances are capable of existing in the colloid as well as in the crystalloid state. In the colloid condition substances otherwise insoluble in water may exist in a state of very fine subdivision in suspension in water, exhibiting most of the properties of a solution. A distinction must be made between the extremely finely divided particles of gold or silver in the so-called colloidal state and the colloid condition of protein substances, starch, silicic acid, etc. The former assume a different state of aggregation and precipitate on the introduction of an easily ionizable substance, while the latter, although capable of assuming ionic charges, are not affected in the same way as to aggregation. Colloids having an extremely extended surface in consequence of their fine division readily attach themselves to other substances showing the phenomena of adsorption. In physiologic processes, a change from colloid to crystalloid and *vice versa* is frequently effected. This was at one time thought to be due to a change in size of the molecule but recent investigations have shown that the conversion of a protein into a sodium salt suffices to make it dialyzable so that it does not appear that a simplification of the molecule is necessary. The properties of colloids make possible many of the activities of cells that would be otherwise inexplicable. The conversion of soluble carbohydrates into colloid forms (starch, glycogen) enables them to be retained in the cell until needed in other parts of the economy. The colloid character of enzymes also allows them to be stored in cells until their action is needed and makes possible the occurrence of chemical actions of different character in different parts of the cells. Thus an oxidizing ferment in its colloid form may be held in one part of a cell while a deoxidizing enzyme acts in another part of the same cell. The phenomena of adsorption make it possible for the cell to retain the special nutriment suited to it and possibly account for the power of the cells to modify the composition of lymph and blood serum in which they float or with which they come in contact.

# Pharmacology

## PHYSIOLOGIC STANDARDIZATION

### Report of the Council on Pharmacy and Chemistry

The Council has adopted the rule that it considers the phrase "physiologically standardized" or "assayed" as misleading, unless the standard and method are published in sufficient detail to permit of their control by independent investigators. The Council has further voted that this ruling and the reasons therefore, be published. In accordance with this order the following explanatory note is given.

W. A. Puckner, Secretary.

The chief credit for the practical introduction of "physiologic standardization" belongs to American pharmaceutical manufacturing houses, which deserve the highest commendation for voluntarily subjecting themselves to great expense and trouble in developing suitable methods of physiologic assay. Without wishing to detract from the credit which justly is due them, the Council nevertheless, feels constrained to call attention to the abuses to which the phrase "physiologically standardized" is liable. To the physician the phrase means that the preparations to which it is applied are made to conform to a definite standard. This obvious meaning, however, is entirely misleading, when it is remembered that each firm has its own standard and that that standard is kept secret, a practice which obtains almost universally. There is little if any more justification in calling such a preparation "standardized" than there would be in calling a diphtheria antitoxin "standardized" without stating its strength. The government would promptly proceed against the manufacturers of such an antitoxin. With the drugs, however, this would be more difficult, since there are no official methods of assay. Every manufacturer can therefore feel at liberty to employ any method of assay which suits his purpose or fancy. Indeed, he might even omit the performance of any test, without serious fear of discovery.

It is scarcely necessary to point out to what confusion and abuses this may lead. A dishonest or careless manufacturer may set himself a very low "standard." Another, more exacting, may set his standard many times as high—yet the products of both would, under the present loose meaning of the term, be called "physiologically standardized," and supposedly, therefore, be of uniform strength. The danger to the public is obvious.

The comparative experiments of Edmunds and Hale on "The Physiologic Standardization of Digitalis"[1] demonstrates that the fear of want of uniformity, at least, is not ungrounded. Other investigations point in the same direction. The remedy for this condition lies in the establishment of official methods of assay; in their absence, however, a great deal would be accomplished if manufacturers who use the phrase "physiologically standardized" would define its exact meaning, so that their claims can be controlled, and their preparations compared with others for which the same claim is made. This is necessary for the protection of the public, and entails no serious sacrifice on the part of the manufacturers. The information which is demanded may once have been a valuable trade secret but it is so no longer since a choice of methods of physiologic assay is now available to any one who cares to look for the information.

In view of these facts, the Council believes that it should enter an emphatic protest against claims of "standardization" based on secret, widely fluctuating "standards;" and in the future it will not accept any preparation for which the claim of physiologic standardization is made unless the standard and method are published in sufficient detail to permit of their control by independent investigators.

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[1] Abstracted in The Journal A. M. A., June 12, 1909, p. 1938.

### Pau-Cola—A Reprimand to Testimonial-Givers

In *The Bulletin* of the Chicago Medical Society for Feb. 12, 1910, the chairman of the committee on ethical relations reported among other things the following:

"The following leaflet entitled 'Pau-Cola Company, Capital Stock $1,000,000, guaranteed 7 per cent., Preferred Stock,' etc. This is a liquid beverage served at soda fountains to the public. By quite a large number of physicians in good standing as members of the Chicago Medical Society, said beverage is lauded and recommended as a 'healthful drink, good for digestion,' 'an appetizer,' 'relieves fatigue and malaise,' etc., 'containing pure and wholesome ingredients,' a 'safeguard to the health of the community,' 'of great value, delicious flavor,' 'the safest hot-weather drink I have ever known or heard of,' and all this and more is endorsed by reputable physicians.

"It is the opinion of your committee that the practice of physicians lending their names for or without a monetary consideration to advocate, exploit or recommend the use of nostrums is not in good taste nor dignified. All physicians so doing should be reprimanded by your honorable body."

The report was accepted, which, we understand, includes approval of the recommendation in the last line, thus administering the reprimand referred to.

### Delegates to the Pharmacopeial Convention

The following list of delegates to the Pharmacopeial Convention of 1910 is received from the secretary, with the statement that it is offered for publication without prejudice, it being understood that such publication does not of necessity mean that these delegates will be received and seated by the convention, as their credentials have not as yet been passed on by the Committee on Credentials and Arrangements.

Attention is invited to the ruling of the Committee on Credentials and Arrangements, that it cannot recognize the right of any one individual to represent more than one organization or institution.

American Pharmaceutical Association.—Albert B. Lyons, Charles Holzhauer, Lyman F. Kebler; alternates, Joseph W. England, Thomas F. Main, Leo Eliel.

American Chemical Society.—George D. Rosengarten, L. W. Andrews, Edward Hart; alternates, Thomas B. Aldrich, John T. Baker, A. B. Lyons.

Medical Department, U. S. Army.—Walter D. McCaw, Carl R. Darnall, Frederick F. Russell.

Bureau of Medicine and Surgery, Navy Department.—H. G. Beyer, G. L. Angeny, P. J. Waldener.

United States Public Health and Marine-Hospital Service.—John F. Anderson, Reid Hunt, Martin I. Wilbert.

Arkansas Association of Pharmacists.—Frank Schachleiter, John B. Bond, Sr., W. L. Dewoody; alternate, Jesse D. Hodge.

Colorado State Medical Society.—E. C. Hill, George A. Moleen, W. T. Little; alternates, C. M. Gilbert, George W. Miel, Sol Ringolsky.

University of Colorado Medical Department.—Caroll E. Edson, Alvin R. Peebles, William A. Jolley.

Yale Medical School.—Oliver T. Osborne, Herbert E. Smith, Clarence G. Spalding.

Connecticut Pharmaceutical Association.—Charles A. Rapelye, John K. Williams, Charles W. Whittlesey.

Delaware Pharmaceutical Society.—H. J. Watson, W. F. Dunn, William Poole; alternates, Thomas Donaldson, J. O. Bosley, J. T. Challenger.

Medical Society of the District of Columbia.—Murray Galt Motter, John W. Chapell, D. Webster Prentiss.

George Washington University, Department of Medicine.—Sterling Ruffin, B. M. Randolph, Noble P. Barnes.

Georgetown University School of Medicine.—George M. Kober, G. Lloyd Magruder, W. M. Barton.

George Washington University, National College of Pharmacy.—Henry E. Kalusowski, Samuel L. Hilton, Lewis Flemer; alternates, Samuel Waggaman, Frank P. Weller, Wymond H. Bradbury.

Illinois State Medical Society.—N. S. Davis, W. E. Quine, Henry B. Hemenway; alternates, Charles E. Chapin, C. W. Lillie.

Northwestern University Medical School.—Arthur R. Edwards, John H. Long, Alfred N. Richards.

University of Illinois Medical Department.—Bernard Fantus; Alternate, Edward L. Heintz.

Illinois Pharmaceutical Association.—Wilhelm Bodemann, W. C. Simpson, Herman Fry; alternates, Andrew Scherer, G. Lindvall, C. M. Snow.

University of Illinois School of Pharmacy.—C. S. N. Hallberg, W. A. Puckner, W. B. Day; alternates, A. H. Clark, C. M. Snow, E. N. Gathercoal.

Northwestern University School of Pharmacy.—Oscar Oldberg, Harry Mann Gordin, Charles W. Patterson.

Indiana State Medical Association.—W. H. Foreman, Samuel Kennedy, James A. Mattison.

Purdue University School of Pharmacy.—Harvey W. Wiley, Ernest G. Eberhardt, Charles E. Vanderkleed.

Valparaiso University School of Pharmacy.—J. Newton Roe, George D. Timmons, A. F. Heineman; alternates, Arthur Linton, John P. Sievers, Otis B. Nesbit.

University of Iowa College of Medicine.—Charles S. Chase,

University of Iowa College of Pharmacy.—Wilber J. Teeters.

Kansas Pharmaceutical Association.—Frank Holliday, W. S. Amos, Matt Noll; alternate, S. J. Crumbine.

University of Kansas School of Pharmacy.—L. D. Havenhill, E. H. S. Bailey, L. E. Sayre; alternates, H. W. Emerson, F. W. Bushong, W. S. Dick.

Johns Hopkins University Medical Department.—William S. Thayer, Thomas McCrae, Leonard G. Roundtree.

Massachusetts Medical Society.—Frank G. Wheatley, Charles H. Cook, Maurice P. V. Tyrode.

College of Physicians and Surgeons, Boston.—Ephraim Cutter.

University of Michigan Department of Medicine and Surgery.—Charles W. Edmunds, Worth Hale, J. W. Trask.

Minnesota State Medical Association.—Ray Humiston, alternate, F. J. Patton.

University of Minnesota College of Pharmacy.—Frederick J. Wulling, W. A. Frost, Robert L. Morland.

New Jersey Medical Society.—Henry L. Coit, Isaac E. Leonard, Henry H. Davis, Joseph Tomlinson.

New Jersey Pharmaceutical Association.—George M. Beringer, Herman J. Lohmann, George H. White; alternates, Edward B. Jones, Charles Holzhauer, H. H. Deakyne.

Albany Medical College.—Howard Van Rensselaer, Spencer Lyman Dawes, Victor Caryl Myers.

Long Island College Hospital.—Frank E. West, Elias H. Bartley.

University of Buffalo Medical Department.—Eli H. Long, DeWitt H. Sherman, Edward J. Kiepe.

Syracuse University College of Medicine.—William Dewey Alsiver, Frank P. Knowlton.

New York State Pharmaceutical Association.—Joseph Kahn, John Hurley, Joseph Weinstein.

Albany College of Pharmacy.—Willis G. Tucker, Alfred B. Huested, Theodore J. Bradley; alternate, Harry B. Mason.

Brooklyn College of Pharmacy.—William C. Anderson, Henry W. Schimpf, A. P. Lohness; Alternates, Daniel C. Mungan, Tracy E. Clark, F. P. Tuthill.

University of Buffalo Department of Pharmacy.—Willis G. Gregory, Frank E. Lock, John F. Gray; alternates, George Reimann, Lee W. Miller, John C. Krieger.

Literary and Scientific Society of German Apothecaries of the City of New York.—E. C. Goetting, William C. Alpers, F. Hirseman; alternates, Carl F. Schleussner, Otto Raubenheimer.

King's County Pharmaceutical Society.—Otto Raubenheimer, Adrian Paradis, Miss K. C. Mahegin; alternates, J. H. Rehfuss, C. O. Douden, C. E. Heimerzheim.

North Dakota Pharmaceutical Association.—Oscar Hallenberg.

University of Cincinnati Medical Department.—Julius Eichberg, L. C. Schrickel.

Ohio State Pharmaceutical Association.—Lewis C. Hopp, T. D. Wetterstroem, George B. Topping; alternates, John C. Firmin, Azor Thurston, Eugene Selzer.

Ohio State University College of Pharmacy.—George B. Kauffman, C. A. Day, William McPherson; alternates, D. S. White, W. E. Henderson, J. McI. Phillips.

Western Reserve University Department of Pharmacy.—Harry V. Arny, Joseph Feil, William T. Hankey.

University of Oklahoma School of Pharmacy.—Homer C. Washburn, Edwin DeBarr, John D. McLaren; alternates, Albert E. Van Vleet, Louis A. Turley, Henry H. Lane.

Medical Society of the State of Pennsylvania.—Adolph Koenig, David Riesman, Henry Beates; alternates, James B. Walker, Thomas S. Blair.

College of Physicians of Philadelphia.—H. C. Wood, Jr., Solomon Solis Cohen, James H. Anders; alternates, Richard A. Cleeman, Judson Daland, L. F. Appleman.

Woman's Medical College of Pennsylvania.—Henry Leffman, Arthur A. Stevens, Frederick P. Henry.

Pennsylvania Pharmaceutical Association.—Lucius L. Walton, M. N. Kline, W. L. Cliffe: alternates, C. B. Lowe, D. J. Thomas.

Philadelphia College of Pharmacy.—Joseph P. Remington, Samuel P. Sadtler, Henry Kraemer; alternates, Frank X. Moerk, Charles H. LaWall.

University of Pittsburgh Department of Pharmacy.—Julius A. Kosh, James H. Beal, Louis Saalback; alternates, Louis Emanuel, B. E. Pritchard, George W. Kutscher.

Fort Worth University Medical Department.—R. H. Needham, W. G. Cook, William R. Howard; alternates, M. E. Gilmore, I. C. Chase, F. G. Wanders.

Texas Pharmaceutical Association.—J. C. Buckner, E. G. Eberle.

Medical Society of Virginia.—Roshier W. Miller, F. M. Read, John Staige Davis.

University of Virginia Department of Medicine.—J. A. E. Eyster, J. C. Flippin, J. H. Kastle.

University College of Medicine, Richmond, Va.—A. L. Gray, A. G. Brown, F. W. Howle.

University of Washington School of Pharmacy.—Charles W. Johnson, Irvin W. Brandel, Albert H. Dewey; H. G. Byers, T. C Frye, John Weinzirl.

Wisconsin Pharmaceutical Association.—Otto J. S. Boberg, Edward G. Raeuber, Ferd W. Thieman; alternates Edward Williams, George Kestin, Richard Sommer.

# Miscellany

**The Chemical Regulation of the Processes of the Body by Means of Activators, Kinases and Hormones.**—Of recent years experimental investigations in physiology and clinical studies on man have led us to understand that the complex of activities in the animal body is united into a functional harmony, not only through a reflex control exerted by the nervous system, but also by chemical regulation effected through the blood or other liquids of the organism. The chemical regulation is brought about by at least two classes of substances, which are not altogether separate and distinct from each other. These are the internal secretions (i. e., those secretions from ductless glands, which pass directly into the blood stream—as is the case in the suprarenal capsule, thyroid, etc.) and the hormones of Bayliss and Starling. Hormones, as defined by Howell (address of the chairman of section K—Physiology and Experimental Medicine, American Association for the Advancement of Science, Boston, Dec. 28, 1909, *Science*, Jan. 21, 1910), are "those substances in solution which, conveyed from one organ to another through any of the liquid media of the body, effect a correlation between the activities of the organ of origin and the organ on which they exert their specific effect." Perhaps the best example of correlated chemical activity among the organs, brought about through the agency of hormones, is to be found in the interrelation of the activities of the stomach, duodenum and pancreas. The process is described as follows: "Hydrochloric acid formed in the stomach and brought into the intestine with the chyme stimulates the epithelial cells of the intestine to form secretin and to pass it into the blood. The secretin conveyed by the blood to the pancreas stimulates this organ to secrete pancreatic juice. The pancreatic juice is carried to the duodenum and stimulates the epithelial cells to form enterokinase, which then activates the trypsinogen to trypsin." Thus clinicians of the present day must bear in mind another great demonstrated physiologic principle, i. e., the chemical correlation of the various activities of the organs and tissues. Concerning the number and importance of the hormones, Howell goes on to say: "The substances of known composition which may be regarded as playing the rôle of hormones are few in number, three or four at most, as follows: First, the carbon dioxid formed in the tissues, particularly in muscle during contraction. It seems agreed now that the carbon dioxid acts as the normal stimulus to the respiratory center. . . . Second, the adrenalin of the adrenal glands, which in some way, directly or indirectly, makes possible the full functional activity of the involuntary musculature of the body. Third, the hydrochloric acid produced in the stomach which stimulates the formation of secretin in the duodenal epithelium. Fourth, possibly the iodothyrin of the thyroid gland with its dynamogenic effect on the neuromuscular apparatus of the body. In addition, there are a number of hormones of unknown composition which have been either proved or assumed to exist, and which are held responsible for certain well-known correlations of function. The pancreatic secretin formed in the epithelium of the duodenum or jejunum which stimulates the flow of pancreatic secretion; the gastric secretin formed in the pyloric mucous membrane which gives rise to the chemical secretion of gastric juice; a secretin formed in the duodenal epithelium which stimulates the formation of intestinal juice in the following segments of the intestine; unknown hormones of pancreatic origin which determine the absorption activity of the intestinal epithelium; vasodilator hormones formed in tissues in functional activity and which have a specific effect on the vessels of the functioning organ; a vasoconstricting and a diuretic hormone formed in the posterior lobe of the pituitary body; a hormone controlling the growth of the bones and connective tissues produced in the anterior lobe of the pituitary body; a hormone controlling the oxidation of sugar in the body and produced in the cells of the islands of Langerhans in the pancreas; a hormone produced in the thymus which controls possibly in some way the development of the reproductive organs; a vasoconstricting hormone formed in the kidneys; a hormone in the salivary glands which controls the flow of water from the blood capillaries in the glands; a hormone produced in the fetus *in utero*, which stimulates the growth of the mammary glands; a hormone in the ovary which controls the growth of the uterus and the processes of menstruation; a hormone in the ovary which controls the implantation of the fertilized ovum and the growth of the placental tissue; a hormone in the testis which initiates the development of secondary sexual characteristics in the male: hormones of an indefinite number, produced in all the tissues and acting specifically on the determinants in the gametes in such a way as to make possible the transmission of acquired characteristics."

**Breast-Feeding of Infants.**—Supervision of breast-feeding, especially when the nutrition of the infant is under suspicion, cannot be properly conducted without frequent determinations of its exact weight. Only in those extremely rare instances in which there is no secretion from the breasts is it possible to determine with certainty before the expiration of ten or more days whether the infant may not subsequently thrive at the breast, since gains in weight often improve when the mother is out of bed, and has regained her health. Crying may have many causes and is not a reliable indication that the infant is not getting enough milk. Green, or loose, or scanty stools in a new-born infant are often coincident with regular gains in weight. They are frequently due to physiologic conditions, or favored by irregular nursing, and by no means indicate of necessity that the milk disagrees with the infant. When the stools are scanty and the weight stationary or the gains slight, suitable supplementary feeding may be advisable until the breast milk can be improved. Early and sudden weaning should never be advised for an infant of stationary weight until every effort has been made to improve conditions by proper nursing hours, regulation of the mother's health and hygiene, and trial in her diet of milk and of yellow corn-meal gruel. An apparently disturbed infant who is steadily gaining, or has recently gained well, at the breast, should not be weaned until all the factors in the disturbance have been thoroughly investigated, as the probabilities are in favor of successful continuation of lactation. On the other hand, an infant at the breast who seems well and contented and has good stools, should not be allowed to long stand still in weight or to make insufficient gains for the lack of some supplementary artificial feeding. This holds true not only during the first few weeks but at any period of lactation.—T. S. Southworth, in *Amer. Jour. Obst.*

**Summary of the Antituberculosis Campaign.**—According to Jacobs (*The Survey*, Jan. 29, 1910), a review of the work done in the campaign against tuberculosis during 1909, shows that $8,180,621.50 was spent, 9,456,409 pieces of literature were distributed and 117,312 patients were treated. These figures include the work done by sanatoriums, associations, dispensaries and municipalities. There were about 300 associations engaged in the work, spending $3,253 each, and 16,988 patients were given aid. The capacity of the various institutions aggregated 14,208 beds, 60 per cent. for incipient, 15 per cent. for moderately advanced and 25 per cent. for advanced cases, giving an average of 2.7 patients for each bed during the year, and making the average stay of each patient in the institution 101 days, which is not considered enough. While the small local hospital is becoming more popular, the demand for institutional care is increasing, with the result of a shortened stay for each patient. The average daily individual expenditure of hospitals and sanatoriums was $1.34. There were 250 dispensaries with 61,000 patients, each visiting the dispensary an average of 10 times. Nearly 350 nurses were employed, whose visits to the homes of patients would foot up into the millions. According to the expenditure, the number of patients treated and the literature distributed, New York leads. Pennsylvania comes second and Massachusetts third. For fourth place, while Colorado and New Mexico lead in expenditure, they have done little or no educational work, and fall far below Missouri, Maryland and Illinois in the number of patients treated. In the amount of literature distributed, which Jacobs feels is an index of the educational work done, Missouri stands third, with New Jersey fourth, Rhode Island fifth and Illinois and Massachusetts sixth and seventh. The cities leading in antituberculosis work may be grouped in the following order: New York, Boston, Chicago, Philadelphia, Baltimore, St. Louis, Pittsburg, Cincinnati, Rochester and Denver. Reports from all parts of the country indicate that this year the work will be more than doubled. Special antituberculosis appropriations aggregating $3,976,500, have been made in the various municipalities for this year, and in addition over $4,000,000 has been appropriated by state legislatures. Besides these large sums, a large number of the existing institutions are planning enlargement of effort, and new organizations are being formed daily.

**Prevention of Malaria.**—Prof. Ronald Ross (*Public Health Reports*, Jan. 21, 1910), says, regarding malaria and its prevention: Malaria will not remain long in a locality (1) unless the carrying agents (*Anophelines*) are numerous enough; (2) unless there is a sufficient number of infected persons to infect the carriers; and (3) if the insects are prevented from biting human beings. The measures to reduce the disease are therefore: (1) Anopheline reductions, as employed in the Suez and Panama canal zones; (2) case reduction according to the plan originated by Koch and Celli in 1900, by leaving the mosquitoes alone and curing the infected patients; and (3) isolation by the use of nets and screens, an ancient method. Isolation and case reduction require ready compliance on the part of the public, which is difficult to attain; but swamps may be drained and water-courses cleared without objection by any one, expense being the consideration, and on this account this plan is better adapted for areas with great density of population, as cities. General preventive measures are, (1) measuring the amount of malaria in the locality affected by examining periodically the spleens of school children, adults being largely immune; (2) treatment of children by distribution of free quinin; (3) house protection by proper construction, screens, etc.; (4) mosquito reduction where advisable (*a*) by minor works, (*b*) major works; (5) a suitable permanent organization and annual malaria report. An additional measure might perhaps be the introduction of the Indian *Anopheline*, *Myzomyia rossii*, which does not carry malaria, in the hope that it may crowd out the malarial mosquito.

**Tuberculous Passengers on Railroads.**—Cars for tuberculous passengers should be compartment cars with compartments opening on a corridor running along one side of the car and not in the center. Each compartment should have two berths, placed lengthwise with the car, a water closet, not enclosed, and a folding washstand with running water. The floor should be covered with linoleum, or should be of cement, and a small rug used. The upholstery should be of leather or, preferably, of movable cushions with washable covers. All dejecta should be thoroughly disinfected before being allowed to escape from the closet. The sputum cups should be of pasteboard and should be burned in a stove designed especially for that purpose. There should be such a stove in each car. When a compartment is vacated by a tuberculous passenger, it should not be used again until thoroughly disinfected with formaldehyd, everything washable boiled, the woodwork and floor thoroughly cleansed and the movable cushions, mattresses and blankets disinfected in a hot room. These rooms should be at railway terminals, where supplies of disinfected cushions, blankets and mattresses could be obtained without causing any more delay than is made necessary by thorough cleaning of the compartments; but owing to the comparatively long intervals in the departure of hospital cars there would be sufficient time for thorough disinfection.—From *Public Health*, Lansing, Mich.

**Factory Inspectors and Public Health.**—The present needs of the states are the adoption and enforcement of laws of the pattern of those in Massachusetts. Pennsylvania's needs are an affiliation of the factory department with the state and local boards of health, with the submitting of appropriate reports. The supervision over the hygienic conditions of factories, noxious gases and dust, spitting, dampness, ventilation, sanitation, nuisances, location and condition of toilets, dairy and other food inspection should be placed in the hands of medical men qualified in sanitation, as the water supplies and transmission of diseases now are. The factory inspectors should then retain their other duties, being largely advisory mechanicians rather than sociologists. It cannot be expected that factory builders, factory owners or operators will adopt means for the protection of their employees until they receive free instruction and advice which is backed by legal authority, and are then led to appreciate the importance and economic value of saving the health and lives of the workmen. Those factory accommodations which mean inconvenience and estheticism require attention, but those industrial conditions which spell danger and death demand correction.—H. B. Wood, in *Pennsylvania Medical Journal.*

**Artificial Feeding of Infants.**—Bottle-feeding should be the last and not the first resort. When found to be absolutely necessary it should, when possible, gradually displace the breast. The first step in artificial feeding is to secure perfect digestion of a weak milk mixture which is reasonably certain not to cause disturbance, and so to time our changes as to increase the strength neither too rapidly nor too slowly. Due regard for proper quantities and proper intervals outweighs in importance ultrarefinements in decimal percentages. When the infant is steadily gaining we should not be in too much of a hurry to increase its food, but when the gain slows down or ceases we must carefully investigate the cause and determine whether the evidence calls for an increase or a decrease in the food strength. We should remember that sufficient proteid is the foundation for a well-balanced development, and that more proteid may be given to the average infant over six months of age if the fat does not exceed 2.50 per cent., or at the most 3 per cent., and also that well-cooked starch in some form is readily digested and absorbed after the seventh month, and is more successfully given combined with the milk mixture than in any separate form.—T. S. Southworth, in *Amer. Jour. Obst.*

**Animal Experimentation.**—Nothing is more certain than that scientific experimentation on animals constitutes the very basis of physiologic, pathologic, medical and surgical advance. To question its value in scientific progress is as futile as to question the value of the railway or the telegraph in commerce. To assert that it is synonymous with the infliction of pain rests on gravely mistaken assumptions regarding its procedures. To abolish it or fetter it by legislation would change our hopefulness of future victory over hitherto unconquered diseases into despair, and deprive future generations of the blessings which we believe we or our successors can give them. And yet there are persons who would not hesitate to abolish animal experimentation summarily were they given the power. Others, seemingly normal-minded in many respects, would seriously restrict it. And for what reason? Because of an overwrought emotionalism, a hyperesthesia regarding the possible sufferings of animals, a state of things in the laboratories that is wholly fancied, and an unwarranted distrust of the humanity of man.—F. S. Lee, of Columbia University, in *Science.*

**The Saliva Sign of Cancer of the Esophagus.**—R. Gaultier has encountered a case of cancer of the esophagus presenting in typical form what he calls Roger's esophago-salivary syndrome: a continuous excessive secretion of saliva as the result of a cancer in the esophagus. This phenomenon is mentioned also in the reports of 20 cases of cancer of the esophagus in the literature. In some cases the salivary reflex was noticed before there was any disturbance in swallowing. The saliva flows most freely during or soon after eating, as a rule; sometimes it is swallowed and vomited later, especially in the morning. The tormenting incessant secretion aids materially in weakening the patients. Gaultier states in his communication in the *Archives des Maladies de l'Appareil Digestif* that his experiments on dogs confirm Roger's explanation of the phenomenon as an esophago-salivary reflex action from irritation of the esophageal mucosa.

**Colon Reactions.**—A. Mathieu, in the *Archives des Maladies de l'Appareil Digestif*, calls attention to attacks of apparently severe indigestion or simulating chronic appendicitis which are merely the expression of a morbid reaction on the part of the colon to some reflex action, of local or neurasthenic origin, or to absorption of toxins. In some of the 14 typical cases reported in detail the attack was accompanied by loss of consciousness for a few minutes. In other cases there were colic pains and vomiting with an extremely tender point near the splenic flexure of the colon, or in the region of the cecum. In one case the disturbances continued to occur unmodified after removal of the appendix. Treatment should aim to cure existing constipation and any inflammatory condition present in the bowel and last, but not least, should include measures to tone up the nervous system.

**Rise of Temperature in New-Born Infants.**—The temperature of the baby should be taken, in the rectum, with a special rectal thermometer, with the same regularity as the mother's is taken during the puerperium. During the first week there is very apt to be a rise ranging from 101° to 105° F. This rise has been variously explained: by several it is attributed to sepsis, by others to starvation. I have seen too many babies relieved of this fever by a small artificial feeding, especially when the mother's milk was slow in coming, without any therapeutic remedies, not to believe that starvation is a factor in many cases of otherwise inexplicable high temperature in the child. Associated with the fever, in these cases, are restlessness, constant drawing up of the legs, crying, hot, dry mouth and skin.—H. E. Tuley, in *Archives of Pediatrics.*

# *Queries and Minor Notes*

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### TO MAKE EPSOM SALTS PALATABLE

*To the Editor:*—To make Epsom salts palatable, add a small bit of citric acid to each dose. This makes a pleasant drink. I advise my patients to follow this method and it works well, and is a great saving.
B. L. HALE, Cherryvale, Kan.

### CHEMICAL NAME OF SAL VOLATILE

*To the Editor:*—What is sal volatile? It is mentioned frequently in a new text-book I have, but in none of my works on materia medica.
W. E. WHITESIDE, Fenwick, W. Va.

ANSWER.—Sal volatile is a practically obsolete name for ammonium carbonate. It is generally used in the form of smelling salts with spirits of lavender.

### DIPHTHERIA ANTITOXIN IN PERTUSSIS

*To the Editor:*—What is the present status of diphtheria antitoxin as treatment for pertussis?
C. E. MCREYNOLDS, Goodrich, No. Dak.

ANSWER.—There is no recognizable scientific basis for the practice of treating pertussis with diphtheria antitoxin, whatever the results of its empiric use may be. Against it should be urged the fact that the injection of a foreign serum is not altogether without danger, and hence is not to be recommended when there is not good reason to believe that the beneficial results will certainly outweigh the possible chances of discomfort or even actual danger.

### DR. LAMBERT'S TREATMENT OF MORPHINISM

*To the Editor:*—Please send me the formula of Dr. Alexander Lambert's morphin cure.
F. W. BURNS, Stewartville, Minn.

*To the Editor:*—A patient has asked me if I knew anything about a formula used by Dr. Alexander Lambert to cure the drug and drink habit. She stated that the formula could be obtained through the American Medical Association. I therefore write you for information. I understand that Lambert's experiments were conducted at the Bellevue Hospital. Kindly let me know what Dr. Lambert's formula is and where I can find a reliable report of cases.
J. J. MCGOVERN, Milwaukee, Wis.

ANSWER.—Dr. Alexander Lambert, 36 East Thirty-first Street, New York City, published an article on the subject in THE JOURNAL, September 25, page 985. While the supply of the issue lasts, THE JOURNAL will send copies for 15 cents each in stamps. Dr. Lambert may be willing to send reprints to persons interested. The letters printed above (received in the same mail) are only two out of many inquiries. A full discussion of the subject in our department of Therapeutics, March 5, will contain quotations from Dr. Lambert's articles and others from various sources.

# *The Public Service*

## Medical Department of the Army

Changes for the week ended Feb. 19, 1910:

Ashburn, James K., 1st lieut., M. R. C., granted 1 month and 20 days' leave.

Graham, George D., dental surgeon, ordered to proceed from Fort Leavenworth, Kan., to Fort Crook, Neb., for temporary duty for such time as his services may be required at that station.

Simpson, James A., 1st lieut., M. R. C., ordered to duty with 1st Cavalry, from San Francisco, to Boise Barracks, Idaho.

Hewitt, John M., 1st lieut., M. R. C., ordered to duty with 1st Cavalry, from San Francisco, to Fort Walla Walla, Wash.

De Loffre, Samuel M., capt., granted 6 months' leave of absence, with permission to go beyond the sea.

Russell, Frederick F., major, ordered to proceed to New York City, for the purpose of securing from the Rockefeller Institute material for the Army Medical School.

Mills, Robert H., dental surgeon, reported for temporary duty at Fort Jay, N. Y.

Gregory, Junius C., capt., orders to sail from San Francisco, on June 5, 1910, for duty in the Philippine Islands, revoked, and instead will sail Aug. 5, 1910.

Gregory, Junius C., capt, granted 2 months' leave of absence.

Carter, Edward C., lieut. col., ordered to Hot Springs, Ark., for observation and treatment at the Army and Navy General Hospital.

Norris, H. C. R., 1st lieut., M. R. C., relieved from temporary duty at Fort Worden and ordered to Fort Casey, Wash., for temporary duty.

Heterick, R. H., 1st lieut., M. R. C., left Fort Oglethorpe, Ga., on 15 days' leave of absence.

Sharpe, Herbert H., 1st lieut., M. R. C., ordered to proceed from Fort Jay, N. Y., to Fort Adams, R. I., for temporary duty.

Tasker, Arthur N., lieut., granted 16 days' leave of absence to take effect about April 15.

Lyon, Wm. C., 1st lieut., M. R. C., granted 23 days' leave of absence about March 3, 1910.

Craig, Charles F., capt., ordered to proceed to New Haven, Conn., for the purpose of delivering a lecture before the Yale University Medical School on the subject of the Army Medical Service.

*Slater, Ernest F., 1st lieut., orders directing him to sail from* San Francisco, June 5, for duty in the Philippine Islands, changed to direct him to sail September 10, instead.

Robinson, James L., contract surgeon, reported for temporary duty at Fort Worden, Wash.

McCallum, F. M., 1st lieut., M. R. C., on arrival at San Francisco, will proceed to his home and on arrival there will report by telegraph to The Adjutant General of the Army for further orders.

Billingslea, Charles C., capt., and Richardson, William H., lieut., on arrival at San Francisco, will report in person to the commanding general, Department of California, for assignment to duty at Army General Hospital, San Francisco.

Halloran, Paul S., capt, on arrival at San Francisco, will repair to this city and report in person to the commanding officer of the Walter Reed General Hospital, D. C., for duty.

Patterson, Robert H., major, leave of absence extended 1 month.

## Medical Corps of the Navy

Changes for the week ended Feb. 12, 1910:

Rixey, P. M., surgeon-general, placed on the retired list from Feb. 1, 1910; detached from duty as Chief of the Bureau of Medicine and Surgery, Navy Department, and ordered home.

Hoen, W. S., P. A. surgeon, ordered to the Naval Station, Guantanamo, Cuba, on expiration of sick leave.

Hayden, R., asst.-surgeon, detached from the Naval Station, Guantanamo, Cuba, and ordered to Washington, D. C., for examination for promotion and then to wait orders in that city.

Bertolette, D. N., medical director, detached from command U. S. Naval Hospital, Washington, D. C., and ordered to continue other duties.

Elliott, M. S., surgeon, ordered to command the Naval Hospital, Washington, D. C.

Johnson, M. K., surgeon, detached from the *South Dakota* and ordered to the *Tennessee.*

Angwin, W. A., P. A. surgeon, detached from the *Tennessee* and ordered to the *California.*

Stokes, C. F., surgeon-general, app[illegible] Surgeon General and Chief of the Bureau of Medicine and [illegible] rtment.

Stokes, C. F., surgeon, detached [illegible] Medical School and the Naval Medical School [illegible] D. C., and ordered to duty as Surgeon Genera[illegible] reau of Medicine and Surgery, Navy Department.

Changes for the week ended Feb. 19, 1910:

Furlong, F. M., surgeon, ordered to duty at the Naval Hospital, Boston.

Miller, O. J. acting asst.-surgeon, ordered to duty at the Naval Hospital, Washington, D. C.

Fitts, H. B., medical inspector, detached from the Naval Recruiting Office, Indianapolis, and directed to wait orders.

Brownell, C. D. W., surgeon, ordered to command the Naval Hospital, Puget Sound, Wash., and to additional duty at the Navy Yard, Puget Sound, Wash.

Bagg, C. P., surgeon, detached from command of the Naval Hospital, Puget Sound, Wash., and ordered to the *Colorado.*

Kennedy, J. T., surgeon, detached from the *Colorado* and ordered to the *Indiana.*

Dorsey, B. H., P. A. surgeon, detached from the *Washington* and ordered to duty at the Naval Hospital, Puget Sound, Wash., and to additional duty on board the *Philadelphia.*

Wickes, G. L., P. A. surgeon, detached from the Naval Recruiting Station, Denver, and ordered to the Naval Recruiting Station, Cedar Rapids, Iowa.

Fauntleroy, A. M., P. A. surgeon, detached from the *Indiana* and ordered to continue other duties.

Allen, A. H., P. A. surgeon, detached from the Naval Recruiting Station, Pittsburg, Pa., and ordered to Naval Hospital, New York.

Ralson, T. W., P. A. surgeon, detached from the Naval Hospital, N. Y., and ordered to the Naval Recruiting Station, Indianapolis.

Sterne, C. F., asst.-surgeon, detached from the Naval Hospital, Puget Sound, Wash., and ordered to the *Washington*.

## Public Health and Marine-Hospital Service

Changes for the week ended Feb. 16, 1910:

Eager, J. M., surgeon, granted 2 months' leave of absence from Feb. 14, 1910.

Nydegger, J. A., surgeon, granted 3 days' leave of absence from Feb. 17, 1910.

Oakley, J. H., surgeon, granted 2 months' leave of absence from March 1, 1910.

Goldberger, Joseph, P. A. surgeon, granted 1 month's leave of absence from Jan. 29, 1910, on account of sickness.

Mason, Wm. C., acting asst.-surgeon, granted 3 days' leave of absence from Feb. 24, 1910.

Naulty, C. W., Jr., acting asst.-surgeon, granted 3 days' leave of absence from February 17, 1910.

Simonson, G. T., acting asst.-surgeon, granted 9 days' extension of leave from Jan. 24, 1910, on account of sickness.

Stier, Carl, pharmacist, granted 6 days' leave of absence from Feb. 7, 1910, under Paragraph 210, Service Regulations.

### BOARD CONVENED

Board of medical officers convened to meet at the Marine Hospital, Baltimore, for the purpose of conducting a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon M. K. Gwyn; Acting Assistant Surgeon W. H. Walsh, recorder.

## *Marriages*

E. L. WILLSON, M.D., to Miss Vida Barry, both of Fowler, Ark., recently.

DAVID N. KEE, M.D., to Miss Mary V. Loftus, both of Gladstone, Mich., recently.

ERNEST GEORGE MAIER, M.D., to Miss Lillian Bach, both of Philadelphia, January 25.

EARL V. MACOMB, M.D., to Miss Lillian Cook, both of Menominee, Mich., February 8.

JESSE HALL SIMPSON, M.D., Louisville, to Miss Elizabeth May Zane, of New York City, recently.

ROBERT R. AGNEW, M.D., Jewett City, Conn., to Miss Bessie Griswold, of Ivoryton, Conn., February 9.

JAMES WILBUR SHANKLAND, M.D., St. Louis, to Miss Abbie E. Morse, of Boston, at St. Louis, February 5.

MAX C. HAWLEY, M.D., Logansport, Ind., to Mrs. Josephine Quinn Vawter, of North Madison, Ind., January 10.

CHARLES HOWARD DAVIES, M.D., Madison Neb., to DORA M. JUDKINS, M.D., of Fullerton, Neb., at Omaha, February 8.

JOHN KENNEDY MULDOON, M.D. Humphrey, Neb., to Miss Dora Eckert, of Charter Oak, Iowa, at Omaha, February 3.

WILLIAM SPICKERS, M.D., Paterson, N. J., to Miss Sophia Reed Hutchins, of San Francisco, at New York City, January 29.

WILLIAM CHAPMAN WARMSLEY, M.D., Tuguegarao, P. I., to Senorita Pura Punciano Garay, of Tuao, Cagayan, P. I., January 10.

## *Deaths*

**Henry Kirke Cushing, M.D.** University of Pennsylvania, 1851; a life member of the Ohio State Medical Association; a resident of Cleveland since 1835; major and surgeon of the Seventh Ohio Volunteer Infantry during the Civil War; for many years professor in the Western Reserve Medical College, his work including the chairs of midwifery, diseases of women and children, surgery, and medical jurisprudence; for several years a trustee of Western Reserve University, which conferred on him the degree of LL.D. in 1884; through whose instrumentality, in great measure, the amalgamation of the Cleveland medical schools was brought about, and in whose honor the H. K. Cushing Laboratory of Experimental Medicine was recently established; died at his home February 12, from cerebral hemorrhage, aged 82.

**William Bancroft Stanton, M.D.** University of Pennsylvania, 1898; a member of the American Medical Association, College of Physicians of Philadelphia, and National Association for the Prevention of Tuberculosis, physician to the Henry Phipps Institute; White Haven Sanatorium of the Free Hospital for Poor Consumptives, and Department for Tuberculosis of the Philadelphia General Hospital; instructor in medicine in his alma mater; who made a special study of blood-pressure, in the course of which he devised the instrument with which his name is closely associated; chairman of the section on medicine of the Medical Society of the State of Pennsylvania; author of many valuable articles on blood-pressure and tuberculosis; died in St. Agnes Hospital, February 13, from croupous pneumonia, aged 38.

**William H. Taylor M.D.** Medical College of Ohio, Cincinnati, 1858; a member of the American Medical Association; for many years connected with the Cincinnati Children's Home, and its president since 1903; president of the staff of the Presbyterian Hospital; one of the founders of the Society of Natural History; a charter member of the Cincinnati Medical Society; for nearly forty years professor of obstetrics in Miami Medical College, and for many years dean of the college; died at his home, February 6, from chronic nephritis, aged 74. At a meeting of the Cincinnati Academy of Medicine, a committee was appointed, consisting of Drs. Nathaniel P. Dandridge, Byron Stanton and Magnus A. Tate to draw up resolutions to be presented at the memorial meeting February 21.

**Ernest Wende, M.D.** University of Buffalo, 1878; University of Pennsylvania, 1884; a member of the Medical Society of the State of New York; for four terms health commissioner of Buffalo, N. Y.; professor of dermatology in the University of Buffalo, and professor of botany and microscopy in the Buffalo College of Pharmacy; dermatologist to the university dispensary; consulting dermatologist to the Buffalo General Hospital; a fellow of the Royal Microscopical Society and a member of the American Electro-therapeutic Association and American Public Health Association; who made a conspicuous record in improving the sanitation and lowering the death rate of Buffalo; died at his home in that city, February 11, from cancer, aged 56.

**William Thompson English, M.D.** Jefferson Medical College, 1871; a member of the Medical Society of the State of Pennsylvania and president of the South Side Medical Society, Pittsburg; professor of physical diagnosis to the Western Pennsylvania Medical College, clinical instructor in chest diseases in the Kauffman clinic; consultant in chest diseases in the South Side Hospital; consulting physician to the Passavant Hospital; surgeon of the Eighteenth Infantry N. G. Pa., for several years; died in the Passavant Hospital, Pittsburg, February 8, aged 60.

**Charles Paine Thayer, M.D.** University of Vermont, 1865; of Boston; a member of the Massachusetts Medical Society; hospital steward during the Civil War; a member of the medical staff of the Northern Pacific Railroad from 1871 to 1874, health officer and city physician of Burlington from 1874 to 1878; from 1893 to 1906, dean and professor of anatomy of the Tufts College Medical School, Boston; and thereafter emeritus professor; died in Atlantic City, N. J., February 1, aged 67.

**Philemon D. Harding, M.D.** Northwestern University Medical School, 1879; of Evanston, Ill.; a member of the American Medical Association; once president of the Evanston Branch of the Chicago Medical Society; for two terms mayor of Goshen, Ind.; and for 18 years pension examiner; a member of the staff of the Evanston Hospital; died in the Good Samaritan Hospital, Los Angeless, Cal., January 28, from nephritis, aged 71.

**Mary E. Greene, M.D.** Womans Medical College of Pennsylvania, Philadelphia, 1868; president of the American Household Economics Association; said to have been the first woman to be admitted to the New York Medical Society; a specialist on dietetics; at one time president of the Board of Health of Tulsa, Okla.; died at her home in Seattle, February 9, from heart disease, aged 65.

**David Hillis Law, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1861; a member of the American Medical Association; assistant surgeon of the Thirteenth Illinois Volunteer Infantry during the Civil War; a member of the Lee County Pension Board; and for more than forty years a practitioner of Dixon, Ill., died in a hospital in Brownsville, Texas, February 13, aged 78.

**Follen Cabot, M.D.** Harvard Medical School, 1894; a member of the Medical Society of the State of New York; assistant surgeon of the Seventh Infantry N. G. N. Y. for several years; professor of genitourinary surgery in the New York Postgraduate Medical School and Hospital; died in Mount Sinai Hospital, New York City, February 13, from septicemia, aged 39.

**Howard Whited Phillips, M.D.** College of Physicians and Surgeons, New York City, 1868; a veteran of the Civil War; died at his home in Perth Amboy, N. J., February 1, aged 72.

**Bernhard Claude Schlatter, M.D.** University of Zurich, Switzerland, 1864; surgeon in the Austro-Italian Campaign of 1866; died at his home in Brooklyn, February 5, aged 70.

**Edwy Joseph Ogden, M.D.** Victoria College, Coburg, Ont., 1855; New York University, New York City, 1855; a member of the American Medical Association; formerly chief surgeon of the Western Lines of the Erie System; died at his home in Chicago, February 14, from an infection of the kidneys and prostatic hypertrophy, aged 80.

**Leswie Colton Keerans, M.D.** University of Maryland, 1902; a member of the American Medical Association; surgeon-in-chief to Mercy General Hospital, Charlotte, N. C.; professor of chemistry and physiology in St. Mary's College, Belmont, N. C.; died in Belmont, February 7, from pneumonia, aged 32.

**William Gregory MacDonald, M.D.** Harvard Medical School,, 1885; a member of the American Medical Association; one of the medical examiners of Suffolk county, Mass.; dermatologist to the Carney and St. Elizabeth's hospitals; died at his home in Jamaica Plain, February 9, from heart disease, aged 51.

**Philip O. Erwin, M.D.** Vanderbilt University, Nashville, 1882; University of Nashville, 1883; a member of the Tennessee State Medical Association; local surgeon of the St. Louis and Southwestern Railroad at Big Sandy, Texas; died at his home, February 9, from cerebral hemorrhage, aged 54.

**Charles N. Potts, M.D.** Eclectic Medical Institute, Cincinnati, 1876; University of Louisville, 1890; formerly of Silverton, Colo., and a member of the American Medical Association; was found dead in his office in Durango, Colo., February 2, from the effects of an overdose of morphin, aged 54.

**William Whitridge, M.D.** University of Maryland, 1862; a member of the American Medical Association; from 1899 to 1908 president of the Baltimore Society for the Prevention of Cruelty to Animals; died suddenly at his home in Baltimore, February 6, from heart disease, aged 70.

**George Griswold Hayward, M.D.** Harvard Medical School, 1881; a member of the Massachusetts Medical Society and honorary member of the Bar Harbor (Maine) Medical Society, where he practiced during the summer; died at his home in Boston, February 6, aged 55.

**Nicholas M. Hoover, M.D.** Jefferson Medical College, 1865; a member of the Medical Society of the State of Pennsylvania; assistant surgeon of the Eighty-seventh Pennsylvania Volunteer Infantry during the Civil War; died at his home in Butler, February 7, aged 75.

**Charles Griswold Gurley Merrill, M.D.** Yale University, New Haven, 1863; assistant surgeon U. S. Army, during the Civil War; for nearly twenty years connected with the U. S. internal revenue service; died at his home in New Haven, Sept. 23, 1909, aged 73.

**James A. Mulhern, M.D.** Detroit Medical College, 1870; a member of the Michigan State Medical Society; and an honorary member of the Grand Rapids Academy of Medicine; died at his home in Grand Rapids, February 9, from diabetes, aged 66.

**Wills de Hass**, for seventy-two years a practitioner of medicine, and a frequent contributor to historic and scientific publications; a veteran of the Civil War; died at the home of his granddaughter in Pittsburg, January 24, from pneumonia, aged 92.

**John M. Piper, M.D.** Victoria College, Cobourg, Ont., 1880; for many years surgeon-major of the Seventh Regiment, Londont, Ont.; and later surgeon-major of the Governor-General's Body Guard, Toronto; died at his home in Toronto, February 7.

**Oliver Hicks, M.D.** Medical College of Virginia, Richmond, 1863; a member of the Medical Society of the State of North Carolina, and president of the Rutherford County Medical Society; died at his home in Caroleen, January 2.

**William Masyck Memminger, M.D.** Medical College of the State of South Carolina, 1888; of Glasgow, Mont.; died in the Deaconess Hospital, Great Falls, Mont., February 3, from septicemia, due to an operation wound, aged 42.

**Richard French Hood, M.D.** Jefferson Medical College, 1865; formerly a member of the Kentucky State Medical Association; died at his home in Irvine, February 10, from the effects of strychnin, aged 66.

**Godfrey Hess Cline, M.D.** Jefferson Medical College, 1860; twice president of the Lycoming County Medical Society; died at his home in Williamsport, Pa., from heart disease, January 8, aged 74.

**Herbert C. Bradford, M.D.** Hahnemann Medical College, Philadelphia, 1856; for twelve years a member of the school board of Lewiston, Maine; died at his home, January 24, from leukemia, aged 76.

**James H. F. Milton, M.D.** University of Pennsylvania, 1860; a veteran of the Civil War; for many years a practitioner of West Philadelphia, died at his home in Mantua, N. J., February 1, aged 78.

**George Z. Horen** (license, Ky., thirty years practice, 1894); a member of the American Medical Association; died at his home in Graefenberg, Ky., February 12, from cerebral hemorrhage, aged 62.

**Henry P. Mayer, M.D.** Hospital College of Medicine, Louisville, 1898; a member of the Kansas Medical Society; died at his home in Parsons, February 4, from malignant disease, aged 52.

**Laura E. Stockdale, M.D.** Chicago Homeopathic Medical College, 1880; formerly secretary of the Denver Homeopathic Club; died at her home in Denver, January 27, from nephritis, aged 68.

**Carl Bronson Smith, M.D.** University of Buffalo, 1880; of Painted Post, N. Y.; died in the Corning, N. Y., Hospital, January 26, after an operation for the removal of gall-stones, aged 52.

**Floyd Johnson Smith, M.D.** University of Maryland, 1895; of Barrackville, W. Va.; died at the Cook Hospital, Fairmont, February 6, from pneumonia complicating typhoid fever, aged 38.

**Peter Binford, M.D.** New Orleans School of Medicine, 1861; formerly of Somerville, Ala.; died at his home in West Nashville, Tenn., February 7, from cerebral hemorrhage, aged 69.

**Lawrence Daniel Doyle, M.D.** Long Island College Hospital, Broklyn, 1904; formerly of Bound Brook, N. J.; died at the home of his sister in Plainfield, N. J., February 9, aged 31.

**George Hunter Rodger, M.D.** New York University, New York City, 1888; of Hammond, N. Y.; died in the Ogdensburg Hospital, February 5, from cerebral hemorrhage, aged 49.

**William F. Benefiel** (years of practice, Ill., 1877); a veteran of the Civil War; died at the home of his daughter in Atwood, Ill., February 5, from pneumonia, aged more than 80.

**Palaemon L. Hilsman, M.D.** University of Pennsylvania, 1871; a member of the American Medical Association; died at his home in Albany, Ga., February 3, aged 62.

**George E. Brattain, M.D.** Medical College of Fort Wayne, Ind., 1882; died in his apartment in Wapakoneta, Ohio, January 29, from hemorrhage of the lungs, aged 51.

**Henry Baughman Hamilton, M.D.** Transylvania University, Lexington, Ky., 1847; died at the home of his son in Dwight, Ill., January 29, from senile debility, aged 87.

**Flint Hart, M.D.** Keokuk (Iowa) Medical College, 1892; of West Point, Ill.; died in St. Mary's Hospital, Quincy, Ill., February 6, from heart disease, aged 41.

**Max Moskievitz, M.D.** Jefferson Medical College, 1890; visiting physician to the Har Moriah Hospital, New York City; died at his home January 4, aged 47.

**Charles W. Hickman, M.D.** Medical College of Georgia, Augusta, 1873; was robbed, shot and killed in Summerville, a suburb of Augusta, February 2.

**James Douglas Terrell, M.D.** Tulane University, New Orleans, 1856; died at his home in Blandville, Ky., February 7, from senile debility, aged 79.

**David M. McFall, M.D.** Jefferson Medical College, 1857; founder of the Memorial Hospital, Mattoon, Ill.; died at his home in that city, February 13.

**K. C. Edgell, M.D.** St. Louis College of Physicians and Surgeons, 1888; died at his home in Oceana, W. Va., January 28, from angina pectoris, aged 47.

**William Poyntell Johnston, M.D.** University of Pennsylvania, 1871; died at his home in Fairview, Pa., January 22, from arteriosclerosis, aged 83.

**Charles Herbert Mason, M.D.** Vermont Medical College, Rutland, 1889; died at his home near Chatham, N. Y., January 27, from nephritis, aged 53.

**Batts Overton Schulte, M.D.** University of Louisville, 1905; died at his home in Louisville, February 11, from edema of the glottis, aged 26.

**Oliver C. Alexander, M.D.** Albany (N. Y.) Medical College, 1854; died at his home in Albany, February 9, from arteriosclerosis, aged 80.

**James J. Dunleavy, M.D.** Yale University, New Haven, 1902; died at the home of his mother-in-law in New Haven, February 6.

**Thomas F. Dunigan, M.D.** Missouri Medical College, St. Louis, 1874; died at his home in Vichy, Mo., February 1, aged 55.

**Frank Richmond Pratt, M.D.** Bellevue Medical College, 1891; died suddenly at his home in Manchester, N. Y., February 5, aged 43.

**Jesse Lin Boyed Norman** (license, Ark., 1903); died at his home in Pangburn, Ark., January 16, from exposure, aged 53.

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# Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

### Bill to Establish a Department of Public Health

The following bill "Establishing a Department of Public Health, and for other purposes" (S. 6049), introduced into the U. S. Senate by Senator Owen, of Oklahoma, has been read twice and referred to the Committee on Public Health and National Quarantine.

This bill creates a separate department and provides for a Secretary of Public Health. While this is ideal and it is to be hoped that such a condition may be ultimately realized, the opposition to the enlargement of the cabinet and to the creation of any new cabinet officers makes it exceedingly doubtful whether such a bill can be passed. It is, however, most gratifying as an evidence of the increasing public interest on this subject.

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:*

"Sec. 1. That there is hereby established a Department of Public Health under the supervision of the Secretary of Public Health, who shall be appointed by the President a Cabinet officer, by and with the consent of the Senate, at a salary of $12,000 a year, with like tenure of office of other Cabinet officers.

"Sec. 2. That all departments and bureaus belonging to any department, excepting the Department of War and the Department of the Navy, affecting the medical, surgical, biologic, or sanitary service, or any questions relative thereto, shall be combined in one department, to be known as the Department of Public Health, particularly including therein the Bureau of Public Health and Marine-Hospital Service, the medical officers of the Revenue-Cutter Service, the medical referee, the assistant medical referee, the surgeons and examiners of the Pension Office; all physicians and medical officers in the service of the Indian Bureau, or the Department of the Interior, at old soldiers' homes, at the Government Hospital for the Insane, and the Freedman's Hospital and other hospitals of the United States; the Bureau of Entomology, the Bureau of Chemistry and of Animal Industry of the Department of Agriculture; the hospitals of the Immigration Bureau of the Department of Commerce and Labor; the emergency relief in the Government Printing Office, and every other agency of the United States for the protection of the health of the people of the United States, or of animal life, be, and are hereby, transferred to the Department of Public Health, which shall hereafter exercise exclusive jurisdiction and supervision thereof.

"Sec. 3. That the official records, papers furniture, fixtures, and all matters, all property of any kind or description pertaining to the business of any such bureau, office, department, or branch of the public service is hereby transferred to the Department of Public Health.

"Sec. 4. That the Secretary of Public Health shall have supervision over the Department of Public Health, and shall be assisted by an Assistant Secretary of Public Health, to be appointed by the President, by and with the advice and consent of the Senate, at a salary of six thousand dollars a year, with such duties as shall be prescribed by the Secretary not inconsistent with law.

"Sec. 5. That the Secretary of Public Health shall be authorized to appoint such subordinates as may be found necessary. There shall be a chief clerk appointed at a salary not to exceed $3,000 a year, and such other clerks as may from time to time be authorized by Congress.

"Sec. 6. That the officers and employees of the public service transferred to the Department of Public Health shall, subject to further action by Congress, receive the salaries and allowances now provided by law.

"Sec. 7. That it shall be the duty and province of such Department of Public Health to supervise all matters within the control of the Federal Government relating to the public health and to diseases of animal life.

"Sec. 8. That it shall gather data concerning such matters, impose and enforce quarantine regulations; establish chemical, biologic and other standards necessary to the efficient administration of said department, and give due publicity to the same.

"Sec. 9. That the Secretary of Public Health shall establish a Bureau of Biology, a Bureau of Chemistry, a Bureau of Veterinary Service, a Bureau of Sanitary Engineering, reporting such proposed organizations to Congress for suitable legislation relative thereto.

"Sec. 10. That all unexpended appropriations and appropriations made for the ensuing year shall be available on and after July 1, 1910, for the Department of Public Health, where such appropriations have been made to be used by any branch of the public service transferred by this Act to the Department of Public Health. It shall be the duty of the Secretary of Public Health to provide, on proper requisition, any medical, sanitary, or other service needed of his department required in another department of the Government.

"Sec. 11. That any other department requiring medical, surgical, sanitary, or other similar service shall apply to the Secretary of Public Health therefor wherever it is practicable.

"Sec. 12. That all officers or employees of the Government transferred by this Act to the Department of Public Health will continue to discharge their present duties under the present organization until July 1, 1910, and after that time until otherwise directed by the Secretary of Public Health or under the operation of law.

"Sec. 13. That all laws or parts of laws in conflict with this Act are hereby repealed."

### The Cheerful Reception Room

That a great many physicians' offices are furnished and adorned in execrable taste is the observation of Dr. L. W. Flanders, Dover, N. H. (*Bulletin Beacon Hill Hospital Staff*). He says that if he were a layman, and above all a patient waiting to have a boil lanced, he doubts if he should enjoy the contemplation of Dr. Tulp's dissection in Rembrandt's "Lesson in Anatomy." He once spent a few minutes in a doctor's waiting-room, the walls of which roared "shop" at him. The "Lesson in Anatomy" was there, and worst of all, a photograph of the doctor himself at the operating table of some postgraduate school. The apron, the rubber gloves, the soiled sponges, the scurrying nurses all stood out in sad reality. In the consultation room he was confronted with a glass case full of glittering steel, and he said to himself, how can a patient stay through all this?

In the hospital nowadays the patient never sees the grim preparations of the operating room nor the surgeon in his ghostly panoply. Why not extend the same method to the office? Let the waiting room be bright and cheery, the walls hung with beautiful pictures, the chairs easy and the table furnished with entertaining literature, and above all, let the place be clean. Given a dirty waiting room, it is hard to believe that an aseptic surgeon dwells behind the door of the consulting room. All surgical instruments should be *hidden* in cabinet drawers, and soiled cotton and dirty sponges be buried in the depths of the waste-box.

### Club Practice and State Insurance in Great Britain, Germany, Austria and France

Interest in organization questions and especially in their application to the peculiar problems of the medical profession is not by any means confined to this country. Physicians in Great Britain, Germany and France are also showing much interest in questions relating to medical economics. The London *Lancet* in its issue of January 1, under the title, "The Organization of the Medical Profession: Some Lessons from Abroad," says: "The 'Battle of the Clubs,' under which heading we have often described the struggles of English medical men to obtain a fair remuneration for the contract practice which so many of them are compelled to adopt as the only way of dealing with their poorer patients, is not waged in England alone. The necessity of organization of the profession has become apparent throughout the continent where the questions at issue, however, are somewhat different." The effect of physicians of the establishment by the German government of compulsory insurance for workingmen has already been discussed in this department (The Journal, Jan. 15, 1910, p. 225).

Austria, it seems, is now taking up the same question, the government having proposed a scheme for general insurance against sickness which provides that every person earning less than 4,800 kronen ($1,000) a year, be required to become a member of a sick-club. A meeting of the medical councils was recently held in Vienna to discuss the influence of such a plan on physicians' incomes. Evidently the same conditions regarding the organization of the medical profession exist in Austria that have existed in Germany. The proposed clubs would greatly lower the average medical income as they would not only employ a less number of physicians to care for their members than now care for the same number of private patients, but would also pay medical men totally inadequate salaries for the work which they would have to do. According to the *Lancet*, a physician drawing a salary of from $500 to $1,000 a year will be expected to look after from 1,000 to 5,000 patients. Austrian physicians are endeavoring to induce the government to reduce the wage limit for compulsory insurance to $500, not requiring any one who earns over that amount to take out workingmen's insurance. While this would diminish the number of members of the sick clubs, it is difficult to see that it would in any way benefit those physicians who were selected to furnish medical attendance for the members. In fact, if the clubs were made up entirely of those earning the smallest wages the possibilities are that the compensation would be reduced rather than increased. The *Lancet* states that there are 2,000 medical men in Austria who are unable to make a living under present conditions and that effective organization is the only apparent relief.

In Germany, Dr. Hartmann, of Leipsic, some eight years ago, organized a fighting medical union familiarly known as the *Leipziger Verband*. Members pay an annual due of $5.00 and are endeavoring to raise a fund of $125,000. Under the compulsory insurance law, each trade forms a sick benefit association and each member pays from 4 to 5 shillings a year for medical attendance. Of the 400 physicians at Cologne, about 80 are employed as club doctors to attend 120,000 workingmen and 20,000 families, which amounts to about 220,000 patients, or about 2,750 patients for each physician. In 1904, a general medical strike was called at Cologne and the 80 club physicians gave up their positions as a result. The effect was that the club imported about thirty-five other medical men to take their places, but finally the physicians won and a five year agreement was signed. This period has nearly terminated and the struggle is expected to break out again.

In France, insurance companies have sought to impose on the medical men whom they employ, while physicians chosen by the injured workmen are accused by the companies of exaggerating the injuries sustained. Medical clubs have been established in a few districts but have not become general. Instead, the municipalities pay a small sum yearly for each person whose name appears on the physician's list as entitled to free medical relief, the money being provided from the local and county revenue supplemented by contributions from the state. The *Lancet* concludes that hard work and inadequate pay for the rank and file of the medical profession are conditions found everywhere. This situation can only be met by presenting an united front and a moderate but positive statement of the attitude of the profession on this subject so as to secure a living income before the inadequate compensation offered has become crystallized into legislation.

## POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

### Seventh Month—Second Weekly Meeting

### Diagnosis of Tuberculosis (Continued)

Special Aids to Diagnosis: Examination of sputum for bacilli; technic of stain by usual methods; methods of Krönig; value of bacilli in early diagnosis. Differential stain for human and bovine bacilli. Lymphocyte sputa (Wolff-Eisner); pathological and diagnostic significance of presence of lymphocytes. Elastic fibers in sputa; significance.

Tuberculin Tests: Tuberculin test of Koch; technic, reliability, dangers. Dosage, general reaction, preparations. Cutaneous reaction, von Pirquet. Preparation used, technic, reaction, diagnostic value.

Ophthalmo-tuberculin, conjunctival, reaction; Wolff-Eisner, Calmette. Preparations, technic, course of reaction. Course of cutaneous and conjunctival reactions in health, in doubtful cases, in different stages of pulmonary tuberculosis, in surgical tuberculosis.

Thermometry: Daily variations, effect of exertion, walks; value of temperature range in early diagnosis.

Experiments on Animals: Animals used, technic, results.

The Roentgen Rays: Changes occurring in volume of lung in normal respiration; limitations in disease of lung; practical value of $x$-ray in diagnosis.

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# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

Connecticut: Regular: City Hall, New Haven, March 8-9. Sec., Dr. Charles A. Tuttle. Homeopathic: New Haven, March 8. Sec., Dr. Edwin C. M. Hall, 82 Grand Avenue. Eclectic: 42 Meadow St., New Haven, March 8. Sec., Dr. T. S. Hodge, Torrington.

Maine: Portland, March 8-9. Sec., Dr. Frank W. Searle, 806 Congress Street.

Massachusetts: State House, Boston, March 8-10. Sec., Dr. Edwin B. Harvey.

### Pennsylvania December Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia and Harrisburg, Dec. 14-17, 1909. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Society of Pennsylvania, the total number of candidates examined was 70, of whom 63 passed, 6 failed and 1 withdrew. The following colleges were represented:

| PASSED<br>College | Year Grad. | Total No. Examined. |
|---|---|---|
| University of California | (1903) | 1 |
| Yale Medical School | (1907) | 1 |
| [illegible] | (1908) | 1 |
| [illegible]iversity | (1905) | 1 |
| [illegible] Medical School | (1907) | 2 |
| Keokuk Med. College, College of Phys. and Surg. | (1905) | 1 |
| Kentucky School of Medicine | (1907) | 1 |
| University of Louisville | (1909) | 1 |
| Maryland Medical College | (1909) | 2 |
| University of Maryland | (1909) | 2 |
| Johns Hopkins University | (1902) (1903) (1909) | 3 |
| Tufts College Medical School | (1907) | 1 |
| University of Michigan, College of Medicine | (1909) | 3 |
| Detroit College of Medicine | (1909) | 1 |
| St. Louis College of Physicians and Surgeons | (1909) | 1 |
| University of Buffalo | (1909) | 1 |
| Columbia Univ., Coll. of Phys. and Surg. | (1904) (1907) | 2 |
| Leonard Medical School | (1909) | 2 |
| University of Pittsburg | (1908) | 3 |
| Jefferson Medical College | (1906) (3, 1908( (7, 1909) | 11 |
| University of Pennsylvania | (1883) (6, 1909) | 7 |
| Woman's Medical College of Pennsylvania | (1909) | 2 |
| Temple University | (1908) (2, 1909) | 3 |
| [illegible]adelphia | (1908) (3, 1909) | 4 |
| [illegible] | (1909) | 1 |
| [illegible] of South Carolina | (1897) | 1 |
| [illegible] | (1892) | 1 |
| University of Rome, Italy | (1907) | 1 |
| University of Naples, Italy | (1905) | 1 |
| University of Turin, Italy | (1896) | 1 |

| FAILED<br>College | Year Grad. | Per Cent. |
|---|---|---|
| Howard University, Washington, D. C. | (1907) | 69.3 |
| Medical College of Indiana | (1896) | 54.3 |
| Baltimore University | (1899) 53.1; (1905) | 61.6 |
| Ohio Medical University | (1905) | 69.7 |
| University of Pittsburg | (1909) | 65 |

At the examination held by the Homeopathic Medical Society of Pennsylvania, the total number of candidates examined was 4, of whom 1 passed and 3 failed. The following colleges were represented:

PASSED

| College | Year Grad. | Total No. Examined. |
|---|---|---|
| Boston University | (1908) | 1 |

FAILED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Atlantic Medical College, Baltimore | (1908) | 57 |
| Hahnemann Medical College of Philadelphia | (1908) | 66.1, 73.8 |

At the examination held by the Eclectic Medical Society of Pennsylvania, the total number of candidates examined was 7, all of whom passed. The following colleges were represented:

PASSED

| College | Year Grad. | Total No. Examined. |
|---|---|---|
| Illinois Medical College | (1908) | 1 |
| University of Maryland | (1909) | 1 |
| Baltimore University | (1894) (1904) | 2 |
| Atlantic Medical College, Baltimore | (1909) | 1 |
| Maryland Medical College | (1905) | 1 |
| University of Pittsburg | (1907) | 1 |

## Missouri December Report

Dr. Frank B. Hiller, secretary of the Missouri State Board of Health, reports the written examination held at Jefferson City, Dec. 7-9, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 30, of whom 13 passed and 17 failed. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| [illegible] d Surgeons, Chicago | (1907) | 82 |
| [illegible] | (1909) | 85 |
| [illegible] College of Medicine | (1909) | 81 |
| St. Louis University | (1908) | 84 |
| Barnes Medical College | (1909) 75, 80, | 81 |
| American Medical College, St. Louis | (1909) | 81 |
| St. Louis College of Physicians and Surgeons | (1909) 75, | 75 |
| University Medical College, Kansas City | (1908) | 75 |
| Kansas City Hahnemann Medical College | (1909) | 75 |
| University of Pennsylvania | (1908) | 87 |

FAILED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Louisville and Hospital Medical College | (1908) | 66 |
| St. Louis College of Physicians and Surgeons | (1908) 67; (1909) | 41, 59, 60, 61, 62. |
| University Medical College, Kansas City | (1909) | 59 |
| Barnes Medical College | (1907) 68.7; (1909) 32, 56, 68, 68, | 68 |
| Kansas City Hahnemann Medical College | (1909) | 65 |
| Homeopathic Medical College of Missouri | (1909) | 61.5 |
| Meharry Medical College | (1907) | 62.7 |

## Kentucky December Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, Dec. 14, 1909. The number of subjects examined in was 14; percentage required to pass, 70, and not less than 60 in any one branch. The total number of candidates examined was 18, of whom 12 passed and 5 failed. One candidate did not complete the examination. Three reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Louisville and Hospital Medical College | (1908) | 83 |
| University of Louisville | (1908) 75, 85; (1909) 75, 75, 75, 76, | 76. |
| Hospital College of Medicine, Louisville | (1906) | 82 |
| Medical College of Ohio | (1898) | 85 |
| University of the South | (1907) | 95.5 |
| Meharry Medical College | (1908) | 75 |

FAILED

| College | Year Grad. | Per Cent. |
|---|---|---|
| University of Louisville | (1909) 52, | 55 |
| Louisville and Hospital Medical College | (1908) 60, | 66 |
| University of Tennessee | (1905) | 42 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Illinois Medical College | (1903) | Indiana |
| Louisville and Hospital Medical College | (1909) | Louisiana |
| University of Michigan, Dept. of Med. and Surg. | (1908) | Michigan |

## Minnesota January Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written and practical examination held at St. Paul, Jan. 4, 1910. The number of subjects examined in was 10; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 20, of whom 16 passed and 4 failed. Sixteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Rush Medical College | (1902) 84.2; (1909) | 82.8 |
| Hamline University | (1909) 76, | 84.1 |
| University of Minnesota, College of Medicine | (1909) 77, 75.4, | 77.6 |
| Syracuse University | (1908) | 75.4 |
| Columbia University, College of Phys. and Surg. | (1909) | 82.8 |
| University of Pennsylvania | (1905) | 84.5 |
| Hahnemann Medical College, Philadelphia | (1904) | 75.2 |
| Jefferson Medical College | (1909) | 79.6 |
| McGill University, Canada | (1909) | 78.4 |
| University of Toronto, Canada | (1902) | 84.7 |
| University of Gottingen, Prussia, Germany | (1889) | 76 |
| Karolinska Medical Institute, Sweden | (1898) | 79.7 |

FAILED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Northwestern University Medical School | (1909) | 73.9 |
| Chicago College of Medicine and Surgery | (1909) | 50.2 |
| Louisville and Hospital Medical College | (1908) | 55.7 |
| Jefferson Medical College | (1909) | 72.1 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Rush Medical College | (1908) | Illinois |
| Coll. of Med. and Surg., Physio-Med., Chicago | (1909) | Illinois |
| Chicago College of Medicine and Surgery | (1908) | Iowa |
| Northwestern University Med. School | (1907) (2, 1908) | Illinois |
| College of Physicians and Surgeons, Chicago | (1900) | Illinois |
| Medical School of Maine | (1904) | Maine |
| University of Michigan, College of Medicine | (1909) | Michigan |
| University of Missouri | (1904) | Wisconsin |
| Cornell University Medical College | (1899) | Michigan |
| Western Reserve University | (1885) Iowa; (1896) | N. Dakota |
| Miami Medical College | (1886) | Ohio |
| Marquette University, Milwaukee | (1896) (1908) | Wisconsin |

## Rhode Island January Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Jan. 7-8, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 9, of whom 4 passed and 5 failed. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| College of Physicians and Surgeons, Baltimore | (1903) | 74 |
| Harvard Medical School | (1907) | 80 |
| Dartmouth Medical School | (1908) | 84 |
| University of Vermont | (1909) | 81 |

FAILED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Baltimore Medical College | (1907) | 71.4 |
| Atlantic Medical College, Baltimore | (1909) | 61.9 |
| Boston University | (1899) | 63.4 |
| Laval University, Canada | (1904) 61.4; (1909) | 67.9 |

## North Dakota January Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Jan. 4-6, 1910. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 11, of whom 10 passed and 1 took an incomplete examination. Five reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| George Washington University | (1908) | 87 |
| Chicago College of Medicine and Surgery | (1909) | 89 |
| Indiana Medical College | (1906) | 75 |
| University of Minnesota, College of Med. and Surg. | (1909) 87, | 88 |
| University of Toronto, Faculty of Medicine | (1907) 75, | 86 |
| McGill University, Montreal | (1868) 75; (1908) | 92 |
| Western University, London, Ontario | (1909) | 78 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Chicago College of Medicine and Surgery | (1908) | Illinois |
| Rush Medical College | (1908) | Illinois |
| Hamline University | (1908) (1909) | Minnesota |
| McGill University, Montreal | (1908) | Minnesota |

## Vermont January Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Montpelier, Jan. 11-13, 1910. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Medical School of Maine | (1889) | 90 |
| Baltimore Medical College | (1908) | 82.4 |
| University of Vermont | (1908) 82.7; (1909) 81.3, | 84.7 |

# *Book Notices*

SEVEREST ANEMIAS. By William Hunter, M.D., Fellow of the Royal College of Physicians of London. Vol. I. Cloth. Pp. 226, with illustrations. Price, $3.25. New York: The Macmillan Co., 1909.

To the student of hematology the name of William Hunter is well-known. Some twenty years ago he described the iron-containing pigment deposits in the liver of pernicious anemia and their relation to processes of blood destruction. A little later he called attention to the occurrence of glossitis as an important clinical manifestation of this disease and to its probable causal relation to gastritis and enteritis with resulting hemolysis in the portal system. Since then he has repeatedly emphasized these views and in 1900 he embodied the substance of his previous communications in a monograph on pernicious anemia.

The present book is announced as the first volume of a work on "Severest Anemias." Hunter's views have become more definitely crystallized and he speaks with no uncertain tone. Pernicious anemias, he says, since the time of Biermer, has been a promiscuous grouping of ill-understood anemias, including several kinds that are etiologically, pathologically and clinically distinct. Ehrlich's emphasis laid on the blood-picture did not clear up the confusion, but rather added to it. From out this heterogeneous mass Hunter declares he can now separate an anemia of a very definite type characterized by a primary specific infective glossitis, gastritis and enteritis, by hemolysis, by secondary compensatory bone marrow changes, often by fever and nervous symptoms. These latter symptoms may be due to secondary infection such as may be the result of "oral sepsis," which complication may at times be removed by appropriate treatment, with corresponding improvement in the patient's condition. This anemia, a disease *sui generis*, he would call Addisonian anemia, as it corresponds to the form first described by Addison.

Hunter takes this stand as the result of more than twenty years' experience with the disease as seen clinically, and at autopsy and also as studied experimentally. He presents some well-executed plates to illustrate the gross and microscopic lesions of the tongue, stomach and intestine. Much, however, of the pathology, symptomatology and treatment is to be considered in the succeeding volume where also will be taken up severe septic anemias that resemble the Addisonian form, are often mistaken for it, but which fail to show the characteristic glossitis, hemolysis and regenerative marrow changes.

One of the most interesting features of this unique and really valuable work is its critical analysis of the literature of pernicious anemia, particularly as expounded by writers who have had the greatest influence, such as Biermer, Immermann and Ehrlich. Biermer's grouping together as pernicious anemia forms due to several different causes is regarded as having been peculiarly unfortunate. And Ehrlich's influence in drawing attention so exclusively to the blood and to the supposedly degenerative lesions in the bone-marrow is severely condemned. Hunter rings the changes on the overimportance attached to the blood-picture and especially to the presence or absence of megaloblasts. "Hematologic methods," he says, "have been a good servant but a bad master."

The book is extremely interesting and instructive, and especially in its historical review of the various opinions that have prevailed concerning the anemia, during the past fifty years. The chronological bibliography will be valuable for reference.

We trust that the succeeding volume will not contain so much that smacks of the controversial. Hunter's attitude is too often that of the advocate striving to prove his case rather than that of the judge aiming to get at the real, scientific truth. We feel that he has a strong case, a very strong one in many respects, but we are also conscious at times that he is not doing full justice to some of the other workers whom he quotes in excerpts that tend to prove Hunter's position, but do not always quite accurately represent the full and complete opinion of the author cited. To be specific, his arguments against Ehrlich's overemphasis laid on the morphology of the blood of pernicious anemia, and the same investigator's conception of the marrow changes as due to a megaloblastic degenerative process have much to be said in their favor, but should not blind our eyes to the fact that this very emphasis laid by Ehrlich on the morphology of the blood, his technic of blood-staining and his hypotheses as to the cause and essential nature of this strange disease, gave an impetus to the study of the anemias and other blood conditions such as nothing else has done. The interpretations of Ehrlich and his followers may often be faulty, but our mass of accumulated facts concerning pernicious anemia is in large measure owing to the incentive inaugurated by this remarkable worker.

Hunter's work is not for the undergraduate. It deals too much with matters of controversy and opinion, is too full of repetitions, and is lacking in many statements of fundamental facts that may be assumed as known by the specialist in diseases of the blood, but should be included if the book is to be consulted by the undergraduate. Much of this lack will undoubtedly be supplied by the later volume, where we also hope to see more clearly set forth exactly what Hunter means when he says that Addisonian anemia is of "drain source," and what convincing proof there is of this origin; what is the specific germ that is the cause and how is this causal relation convincingly proved; and whether his statement (p. 187) that secondary degenerative changes extend along the sensory nerves to the cord and cause the various peripheral sensory disturbances and the subacute degenerations that are described, is based on careful histologic studies. The maps and schemes in this volume are numerous, but we must confess that we have been obliged to study some of these most carefully before being sure we understood them. Perhaps we have missed the primary conception of some of these plans, but it really seems as though the scheme should be so simple as to be grasped almost at sight; or some explanatory key should be furnished.

DIE INNERE UND DIE CHIRURGISCHE BEHANDLUNG DES CHRONISCHEN MAGENGESCHWURS UND IHRE ERFOLGE. (Work Awarded the Alvarenga Prize by the Hufelandsche Gesellschaft.) By Dr. L. Bamberger, Head Physician at the Grunewald Sanatorium. Paper. Pp. 269. Price, 8 marks. Berlin: Julius Springer, 1909.

This little volume of 269 pages contains a *resumé* of the medical and surgical treatment of chronic ulcer of the stomach. It is largely the result of a statistical study of the literature, though the author in reaching conclusions and generalizations is influenced, as he should be, by his own experience with something over 200 cases. A brief introductory consideration of the causation, pathology and symptomatology of ulcer is followed by a consideration of the non-surgical method of treatment, its theory and practical application in cases of bleeding and non-bleeding ulcer and ulcer with complications such as perforation, carcinoma, pyloric stenosis, perigastritis, hour-glass contraction, etc. A lively interest is manifested in the methods of Leube and Lenhartz, which methods apparently seem to Bamberger of about equal merit, though in the bleeding ulcer he properly, as we think, prefers the plan of Leube, though in other cases statistics often seem to favor the Lenhartz technic. By treatment by internal methods permanent cures are obtained in 70 per cent. of cases. Regulation of diet is the all-important measure. Too little attention is paid to treatment, *i. e.*, diet, after a patient leaves the hospital; many relapses might otherwise be spared.

Bamberger is a firm believer in the doctrine that the treatment of chronic ulcer belongs to the internist. Certain cases, however, are clearly surgical and the advantages of the various surgical procedures are briefly described. Stubborn cases with repeated relapses after dietetic cures should have the benefit of operation. This is especially true of pyloric ulcers, but he regards non-pyloric cases that have proved refractory to properly directed dietetic management, as surgical. Perforation, pyloric obstruction and hour-glass stomach are clearly surgical conditions.

There is, as is so frequently the case in the writings of the Germans, a great preponderance of reference to the work of German writers. Other nationalities are occasionally noted, even America being a few times mentioned, generally, however, the writing having been studied in an abstract or in some stray reference that has been run across accidentally. Yet in spite of some shortcomings the thoroughness with which the subject has been studied in the literature of Germany, the careful sifting of evidence by the author, his logical way of reasoning, his easily understood tables, his simple, plain style, make it clear why the Hufeland society awarded to this work the Alvarenga prize.

The Practice of Medicine. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Cloth. Pp. 1412, with illustrations. Fifth Edition. Price, $5.50 net. Philadelphia: P. Blakiston's Son & Co., 1909.

This book has been carefully revised and much new matter added, including the prophylaxis and treatment of typhoid, the Flexner-Jobling serum in meningitis, the Wassermann reaction in syphilis and the parasyphilitic diseases, the serum treatment of hyperthyroidism, treatment by the bacterial vaccines and the employment of the opsonic index, the Cammidge reaction, etc. Pellagra is treated briefly. The chapter on parasites is sufficiently complete and up to date and includes an account of *Necator americanus* and hookworm disease. All these things, which are comparatively new, remind us again how rapidly medicine is advancing and changing in its methods of detecting and overcoming disease. At the same time, it is a source of satisfaction to see the confident statements as to the old-fashioned drugs in the treatment of disease in these days of serums and vaccines and antitoxins. The work contains over 1,400 pages. This is a big book, but as a text-book on the practice of medicine is a sort of department-store of medical knowledge we believe that it should have included a few pages at least on the technic of physical exploration, such as the determination of blood-pressure, pulse tracing, etc., which the author in his preface says were omitted as belonging to works on diagnosis. Inasmuch as laboratory methods are discussed in the diagnosis of typhoid fever, tuberculosis and stomach and blood diseases, some information on these other matters would have been helpful and added to the value without much increasing the size of the book. The book contains a number of charts and new illustrations, and remains one of the standard works on practice.

Girl and Woman. By Caroline Wormeley Latimer, M.D., M.A., Formerly Instructor in Biology, Woman's College of Baltimore. With an introduction by Howard A. Kelly, M.D., Professor of Gynecological Surgery, Johns Hopkins University. Cloth. Pp. 318. Price, $2. New York: D. Appleton & C., 1910.

This book is made up chiefly of sane, practical advice concerning the regulation of the life of a normal girl. The author states that psychologic research has made it plain that no period in a woman's life is so important as the transition years of development from childhood into womanhood. As this period of transition is a slow one, occupying several years, she believes that the principles instilled into the mind of the growing girl at this time are of paramount importance. The book commences with a discussion of the physical and mental changes occurring at puberty, some of which (or, at least, their frequency) the author seems to exaggerate. The moral disturbances of this period also are unduly emphasized; comparatively few normal girls—that is to say, girls who are in good health otherwise and who have been properly brought up—contract unauthorized debts, swear, become untruthful, etc., even temporarily, at puberty. The chapter on menstruation is practical and contains good advice; but in a book intended for the laity it seems unwise to advise bromid of potassium for dysmenorrhea as "almost the only thing which can be safely used without a doctor's advice." It should never be forgotten, moreover, that puberty is a physiologic period of transition and menstruation a physiologic process, and that the majority of normal girls pass through both with little discomfort. The advice regarding personal hygiene is good. The home treatment given for minor ailments is simple and can be carried out under any circumstances.

A Text-Book of Physiology. By William H. Howell, Ph.D., M.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Third Edition. Cloth. Pp. 998, with illustrations. Price, $4.00 net. Philadelphia: W. B. Saunders Co., 1909.

Chemical and physical methods of investigation of physiologic processes and phenomena as they become more and more perefected, are constantly replacing or modifying old ideas of vital processes and suggesting, confirming or correcting new theories and observations. The field of investigation in physiology seems unlimited and there is still abundant opportunity for attaining results of the greatest importance, as the author says. The wealth of contributions to our knowledge or of theories and new points of view in physiology demand of an author of such a work as the present one, wide knowledge of what is being said and done and discrimination in the selection and presentation of the matter. This requirement is well fulfilled in this book. Former statements have been corrected and modified in accordance with present accepted views, new material added, and new theories mentioned where they seemed to be reasonable and important. All the statements are made in a clear and forcible manner and the book is a highly satisfactory presentation of the subject for the medical student and physician for whom it is intended.

Bibliography of Trypanosomiasis. Embracing original Papers published prior t [illegible] nd Papers on Tsetse-Flies, [illegible] Compiled by G. A. Thimm, [illegible] per. Pp. 288. Price, 4 [illegible] Bureau, Royal Society, Burlington House, W., 1909.

This is an alphabetical author-index of published works on sleeping-sickness, the trypanosomiases of man and animals, and the tsetse fly, containing nearly 2,000 titles, and comprising, the compiler believes, an almost complete list of references to papers on the first two subjects published from 1803 to March 31, 1909. Besides being indexed under the names of authors, the papers are given under the names of journals in which they appeared. A subject-index, now in course of preparation, will be forwarded to subscribers to the present work. References to the literature of the subject subsequent to March, 1909, are contained in No. 6 and succeeding numbers of the *Sleeping-Sickness Bureau Bulletin.* It may be worth while to note that the director of the bureau desires to receive early copies of authors' papers for notice in the *Bulletin.* The bibliographic work appears to be very well done, and the pamphlet should be useful to those who desire to study the literature of trypanosomiasis and related subjects.

Lehrbuch der Nervenkrankheiten. Herausgegeben von Dr. Hans Curschmann, dirigierendem Arzt der inneren Abteilung des St. Rochus Hospitals in Mainz. Cloth. Pp. 977, mit 289 in den Text gedruckten Abbildungen. Price, 24 marks. Berlin: Verlag von Julius Springer, 1909.

This book is made up of twelve divisions, each devoted to a discussion of a certain class of the various diseases of the nervous system. Each part is written by a different author, and the ability and knowledge of the various authors are sufficient recommendations for the book. The subject-matter is put very concisely, making it a work of value to the student as a reference book and to the general practitioner who is desirous of obtaining the important recent advances on the subject of nervous diseases, without having to consult works intended for the specialist. Special mention may be made of the addition of a new chapter without which no textbook on nervous diseases will be complete in the future, namely, that on the operative therapy of nervous diseases. This chapter deals with the topography of the cranium and its contents, the spinal cord and the peripheral nerves. The technic for the various operations on the brain and cord is well illustrated.

Lehrbuch der [illegible] ffwechselkrankheiten für Aerzte und [illegible] ofessor Dr. F. Umber, Aerztlichem Dire[illegible] ankenhause in Altona. Paper. Pp. 394, [illegible] 12.50 marks. Berlin: Urban & Schwarzenberg, 1909.

This work is much more compact than that of von Noorden, less concerned with abstruse and theoretical chemical and metabolic problems, and hence, perhaps better suited to the needs of the general physician who is looking rather to the practical than to the ultra scientific side of the questions involved in this disease. The values of the different foodstuffs are considered and different methods of feeding, as by enemata, the subcutaneous route, the forced feeding by the stomach, etc., are discussed. Obesity, diabetes mellitus and diabetes insipidus, gout, and urinary calculi are handled in a satisfactory, though not extended manner. Good plates help in the understanding of gout and the pancreatic pathology of diabetes.

Manual of the Diseases of the Eye. Japanese Translation of Sixth Edition. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department. Cloth.

We are in receipt of the Japanese translation of Dr. May's "Manual of Diseases of the Eye." The Journal commented on the original edition of this book when it appeared in English and, therefore, we are relieved of giving an analytical review of this translation. Curiosity, however, prompted the study of the first page to try to gain an idea of the title of the book in Japanese, but after a while it became evident that we were looking at the wrong place for the title; that the title-page was the last page in the book; and further, that to read it one must read backward. This method of reading being unfamiliar here, the attempt was given up. There are few American books that have been honored by translation into many foreign languages as has Dr. May's; it has been translated into German, French, Italian, Dutch, Spanish, and now Japanese, some of these versions being in the second and third edition.

Surgical Diagnosis. By Daniel N. Eisendrath, A.B., M.D., Professor of Surgery in the Medical Department of the University of Illinois *(College of Physicians and Surgeons). Second Edition.* Cloth. Pp. 855, with 574 illustrations, 25 in colors. Price, $6.50 net. Philadelphia: W. B. Saunders Co., 1909.

Little can be added to what was said in the review of the first edition of this very excellent book. The text has undergone a thorough revision; new methods of diagnosis are included and old ones are amplified in order to keep pace with progress, and in this, as well as in other things, the author has succeeded well. That portion of the chapter on the head dealing with the localization of the motor centers has been entirely rewritten to conform to what has been shown by more recent investigations to be correct. The sections on acute abdominal conditions and renal lesions have been revised considerably. Many new illustrations have been added; the many good pictures which were such a notable feature of the previous edition cannot fail to be of value and interest to both surgeon and general practitioner.

Medizinisches Taschenlexikon in 8 Sprachen (deutsch, englisch, französisch, italienisch, japanisch, russisch, spanisch, ungarisch). Bearbeitet und herausgegeben von Dr. J. Meyer, Arzt in Berlin. Flexible leather. Pp. 788. Price, 16 marks 61 pfennige. Berlin: Urban and Schwarzenberg, N. Friedrichstrasse, 105b, 1909.

The editor-in-chief of this book has had the collaboration of colleagues of the various nationalities whose speech is represented. The volume is said to contain about 5,500 words in each of the languages represented (German, English, French, Italian, Japanese, Russian, Spanish and Hungarian), and to include words which, although not strictly medical, are nevertheless frequently used in the description of clinical pictures. It is convenient in size, and appears to be fairly comprehensive in scope. Of course, the attainment of the end in view necessitated rigorous adherence to a plan which forbade all attempt at exhaustiveness and the discriminating comparison or definition of words. No definitions are included, and only one synonym is given in each language.

Diseases of Infants and Children. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, and Godfrey Roger Pisek, M.D., Professor of Diseases of Children, University of Vermont. Cloth. Pp. 591, with 179 illustrations and 11 colored plates. Price, $4.50 net. New York: William Wood & Co., 1909.

The general plan of this new work on pediatrics is commendable; the balance between the various subjects is sustained and the chapter on dietetics is particularly well presented. It can be highly recommended to the medical student and to the general practitioner as an excellent epitome of pediatrics from what might be called the American point of view. If there be any point in the book open to criticism it is the Chauvinistic spirit that pervades much of the English literature of pediatrics. The book is lavishly illustrated with original illustrations that lend a clinical atmosphere to the text.

Practical Therapeutics and Prescription Writing. By Daniel M. Hoyt, M.D., Instructor in Therapeutics, University of Pennsylvania. Flexible Leather. Pp. 291. Price, $2.50. Philadelphia: Edward P. Dolbey & Co.

This book presents in clear language an excellent summary of the pharmacologic action and therapeutic uses of drugs. The drugs described are classified according to their uses, while the index is adapted from the "Physicians' Manual of the Pharmacopeia and National Formulary" in such a way as to supply a great deal of information in small space. The book is well printed and bound in flexible covers, and is well fitted both for the student and for the general practitioner.

# Society Proceedings

COMING MEETING

Medical Society of the Missouri Valley, Omaha, March 17-18.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK

*One Hundred and Fourth Annual Meeting, held at Albany, Jan. 25-26, 1910*

*(Concluded from page 643)*

### Public Health Education

Dr. Rosalie Slaughter Morton, New York, read a short paper in which she presented the plan of work of the Public Health Education Committee of the American Medical Association.

### Clinical Significance of Subfebrile Temperature in Pulmonary Tuberculosis

Dr. Arthur T. Laird, Albany: Continued or repeated slight elevation of temperature is one of the cardinal symptoms of incipient pulmonary tuberculosis. That it is not pathognomonic is shown by its occurrence in other conditions. It may be due to incipient tuberculosis of the lungs, even when physical signs in the chest are entirely negative, just as there may be no abnormal signs in the chest even though there is definite hemoptysis or though tubercle bacilli are found in the sputum.

### Study of Tremors

Dr. M. Neustaedter, New York, read a paper on this subject in which he drew the following conclusions:

1. The difference between the various tremors is of kind, not of degree, and every form of tremor is distinctive of a form or group of diseases. 2. No definite relation exists between one form of tremor and another. 3. The frequency of movements has no bearing on the character of the tracing. 4. There is no material difference between the movements of the two sides of the body.

### Lumbar Puncture as a Diagnostic and Therapeutic Agent in General Practice

Dr. Nelson G. Russell, Buffalo: From an exact scientific point of view, lumbar puncture as an aid in diagnosis, or as a therapeutic measure, may not have made a place for itself, but as an aid in general practice it merits a much more prominent place than it has yet attained.

DISCUSSION

Dr. Irving M. Snow, Buffalo: The use of lumbar puncture by the general practitioner will clear up a great many obscure cases. Lumbar puncture, however, is not free from danger. It was my misfortune to see a child seventeen months old who had been ill for ten days with pneumonia, when the child developed meningitis. On my advice the family physician urged lumbar puncture, which was done. A syringe was used to withdraw the fluid. The fluid came out quite freely, drop by drop until about 20 c.c. had been withdrawn. Suddenly the child stopped breathing, although the heart action was good. We worked with respiratory stimulants and injected normal salt solution into the spinal canal, and while respiration was kept up for about twenty minutes the child died; death was due to pressure in the medulla oblongata. These fatalities, however, should not deter us from using lumbar puncture, although the man who resorts to it should thoroughly understand its technic.

Dr. N. G. Russell: I am aware that sudden deaths have been reported from lumbar puncture, but most of them have occurred in cases in which a syringe has been used, or in which a larger amount of fluid has been withdrawn than I spoke of, namely, 20 c.c. or more. No accident has occurred when the amount withdrawn has been 15 c.c. or less. If we put the limit at 12 c.c., I think the operation is fairly safe. I have done it in all kinds of cases in the hospital, possibly in two or three hundred, and the patients have manifested no evidence of discomfort.

### Adequacy of the Present Treatment of Syphilis Tested by the Occurrence of Syphilitic Nervous Diseases

Dr. Joseph Collins, New York City: Certain nervous diseases, such as paresis, tabes, myelitis, pachymeningitis and endarteritis are sequels of syphilis often long after infection. Many of those in whom such diseases occur have had what is taught to be adequate treatment for syphilis. The occurrence of these diseases proves its inadequacy. Probably the chief reason why the syphilitic virus is not oftener negatived by treatment, and such nervous diseases prevented, is the widespread belief that potassium iodid is an antisyphilitic agent. The utility of mercury in the treatment of syphilitic nervous disease offers proof that mercury, properly administered, may be an adequate antisyphilitic.

DISCUSSION

Dr. L. Duncan Bulkley, New York City: For many years I have been satisfied, from what I have seen in my own practice and that of others, that we make a great mistake if we depend to any degree on potassium iodid except to remove certain definite lesions of syphilis. I should say mercury first, mercury last, and mercury all the time. In my clinic I have an assistant who gives mercury by injection with my consent. Sometimes I have the pleasure of showing his cases and my cases and comparing them from the standpoint of treatment. I use internal treatment, while my assistant uses the injection treatment, and I think that I have demonstrated that my results are quite as good. I do not underestimate applications of mercury through the skin, by baths, or by inunction. These are valuable methods, and they save life now and then, but it cannot be done in private practice.

Dr. A. A. Young, Newark: What particular form of mercury does Dr. Collins prefer?

Dr. Joseph Collins: In one hospital I use bichlorid of mercury; in another I use salicylate of mercury, and so far as my experience goes one form is just as serviceable as the other if it can be got into the system.

### Alcohol in Dermatology

Dr. L. Duncan Bulkley, New York: Experimental study has shown that alcohol has a prejudicial effect on cell life, both vegetable and animal, and pathologic studies have demonstrated degenerative changes in almost all the tissues of the body as a result of the action of alcohol taken internally. It is natural to suppose that the skin suffers with the rest of the economy, and clinical experience shows that this is the case, often from even the moderate use of alcoholic drinks, although as yet we have not the histopathologic evidence of the fact. Animals intoxicated by alcohol are more susceptible to infection and toxins than are normal animals, and the process of experimental immunization is unfavorably influenced by alcohol. Experiments and observations show that by its sedative action on the vasoconstrictor center of the medulla alcohol causes a slight paralysis of the nerves controlling the capillaries of the skin; and the signs of flushing after its use in any quantity are well recognized. This dilatation of the capillaries leads to a greater flow of blood to the surface of the body and to a greater congestion of diseased portions; this congestion in many dermatoses being most difficult to control. It is a rare exception to find bad ulcerative syphilis in individuals who have always been teetotalers. The most important direction to give to those who have acquired syphilis is that they shall totally abstain from all alcoholic and fermenting beverages indefinitely, for even long after the primary infection alcohol may induce grave syphilitic or parasyphilitic affections. This is especially true in regard to late nervous diseases, like locomotor ataxia, polyneuritis and paresis. Striking illustrations of the effect of alcoholic drinks on the skin are found in the conditions observed on the face. Various suggestions have been made from time to time in regard to the local use of alcohol on the skin, and it has attained a definite position of usefulness as an antiseptic in surgery. Its bactericidal qualities are well recognized, and its antidotal action to carbolic acid is well known.

### Tuberculosis of the Bones and Joints

Dr. Leonard W. Ely, New York: There are two general types of the disease: the primary bony and the primary synovial. These types have been generally recognized abroad, but in recent years a custom has prevailed in America of regarding all joint tuberculosis as of bony origin; this has given rise to much confusion. The focus in the bone later may involve the synovial membrane, and *vice versa*. On the other hand, either may exist alone indefinitely. Healing of the adult tuberculous joint usually takes place by the formation of connective tissue. I believe that healing after abscess formation is much more likely to be permanent than that which has been brought about by encapsulation with connective tissue. In rare instances healing takes place by the formation of a bony ankylosis. Tuberculin tests are a reliable means of diagnosis. Treatment is constitutional and local; and the latter may be conservative or operative. Local treatment is the treatment *par excellence* in children. Conservative treatment may also be tried for a few months in the synovial tuberculosis of adults. The treatment of abscesses comes under the head of conservative treatment. In children the only radical operative treatment ordinarily consists of an amputation. The points to be emphasized are: 1. Tuberculosis of a joint, unlike cancer, does not necessitate total eradication. Areas of repair and extension exist side by side, and much of the tissue is practically normal. Motion keeps the process alive. 2. One should spare no pains to make a positive diagnosis before opening a supposedly tuberculous joint. 3. In adults, when it is possible to produce bony ankylosis, Nature should be allowed to clear away the tuberculous soft parts that are left behind. In operating on the knee the surgeon should secure good exposure and be guided by what is found. If drains are used, they should be removed early, and every care taken to avoid secondary infection.

DISCUSSION

Dr. Reginald H. Sayre, New York: Tuberculous synovitis exists clinically, although some foreign physicians deny its existence except as secondary to ostitis. In certain cases excision is a necessary and useful procedure in tuberculous joints in children, although, as a usual thing, if the disease is diagnosticated sufficiently early, the case does not proceed far enough to require excision. As I understood Dr. Ely, he advocated great slowness in interfering with a tuberculous joint, and spoke of cases in which there was a slight amount of disease when the patients were first seen, and yet subsequently there was great destruction of the joints. That is probably true, and many joints are sacrificed by too early interference, which by rest and quiet would have been cured by Nature without any exploration. Many years ago I was much in favor of the radical removal of all tuberculous tissue in so-called tuberculous abscesses; but further experience has convinced me that the pursuance of that course is wrong, and that Nature can look after these joints better than surgeons in the majority of cases. So long as the patient's condition is good, the temperature below 100 F. and the appetite good, many of these joints are vastly better left alone than interfered with, whether by aspiration or by more radical operation.

Dr. Nathan Jacobson, Syracuse: By the newer methods we can arrest the progression of the tuberculous processes in joints. There was a time when early invasion of the joint was advocated. I do not like the term surgical interference. It is perhaps surgical interference to operate at the wrong time, and in the wrong kind of case, but a surgical procedure which is justified never deserves the designation of surgical interference. There are, however, many methods to-day which we can use in these tuberculous processes which will favor the limitation of the processes, and among them are the method of Bier by producing hyperemia, the use of the *x*-ray, or the high-frequency current, superficial cauterization, and rest by fixation. All these are measures which can be used and, if employed judiciously, will in many cases arrest the process and obviate the necessity of surgical interference. But the time comes in some cases when surgical attention is required. It is not possible to lay down a radical rule as to whether we shall take away a small or large fragment in all cases; each case must be a law to itself. During the past two years I have had two cases of extreme invasion in which other surgeons said nothing but amputation would be of any service; in both of these extensive resection has led to union and to good results. In cases in which there is extensive destruction, there should be radical removal of all foci approachable and the satisfactory results will justify a wide removal of the diseased tissue; and bringing the parts together in proper position without any suture will secure firm union, and a useful joint, and not only that, but improvement of general health. Under such treatment these patients take on flesh, and become vigorous, self-reliant and useful citizens.

### Duty the Medical Profession Owes Women with Uterine Cancer

**Dr. Walter B. Chase**, Brooklyn: In view of the appalling fact that statistics of registration show that 1 out of 11 of all women die of cancer, and that after reaching the age of 35 the mortality increases to 1 in 9; and that as most of these are cases of uterine cancer, the question arises whether the medical profession does not owe an unfulfilled obligation to this most unfortunate class of sufferers. While large benefactions and well-organized efforts are ministering to the comfort of the tuberculous, there is in New York State no systematic humane plan to reach these more terrible cases in which the patients are condemned to helpless suffering and torturing death. There is substantial basis for the belief that earlier recognition of malignancy in these cases would add something to the measure of relief to be obtained by radical or palliative treatment. Among these unfortunate women are large numbers whose resources make it impossible for them to secure proper medical advice or capable nursing. It is also painfully apparent that hospital facilities for incurables are entirely inadequate to meet the needs of society not only in malignant but other diseases.

In view of these facts I offer the following resolution:

*Resolved:* First, that the medical society of the State of New York shall by its President appoint a committee of four, whose duty shall be to urge on all practitioners of medicine in this state greater care in making early diagnosis in cases of suspected uterine cancer.

*Resolved:* Second, that this committee be directed to devise some method by which along ethical lines women may be properly informed why they should seek early professional advice in menstrual or hemorrhagic disorders; and that they are further instructed to consider some more comprehensive plan whereby a general diffusion of appropriate and vital knowledge may be promulgated on this very important subject.

*Resolved:* Third, that this committee be directed to report its recommendations at the next meeting of the society.

*Resolved:* Fourth, that the treasurer of this society be directed to honor payment of bills incurred for printing and needful correspondence (if not otherwise provided for), and that this committee be empowered to fill vacancies in its membership and to appoint sub-committees if deemed expedient.

### Experimental Epidemic Poliomyelitis

**Drs. Simon Flexner** and **Paul A. Lewis**, New York, presented this paper. The important points have been fully covered in the various articles on the subject by the same authors in The Journal, Nov. 13, 1909, p. 1639, Dec. 4, 1909, p. 1913, Dec. 18, 1909, p. 2095, and Feb. 12, 1910, p. 535.

### The Relationship Between the State Board of Regents and Training Schools

**Dr. Joseph Merzbach**, Brooklyn: The practicing physician ought to make his influence felt in the legislative and administrative measures directed to the problem of educating nurses. In all the meetings of nurses' associations, supervisors' associations and hospital superintendents' associations, a good deal of eloquence is expended in the interest of the nurse and the training school and of the hospital, overshadowing completely the practicing physician, who gives bread and butter to the majority of all graduate nurses. It is not surprising, therefore, that he has found no opportunity to have his voice heard in the board that issues the syllabus and frames the questions for examinations. In fact, the board consists only of nurses, but I believe it will be necessary to call the attention of the State Board of Regents to the monstrous proposition that no other interest is represented in that important body in order to have the defect remedied. I believe that the practicing physicians in the state should have at least one representative on this board. In addition the board should consist of a representative of the training schools of the hospitals, of the teaching bodies of the training schools, so that all interests may be properly protected in the necessary changes that will have to be brought about in the system of educating trained and registered nurses.

### Some Unsolved Problems in Relation to Nurses' Training Schools

**Dr. Charles Stover**, Amsterdam: The nurses' training school presents a more complicated problem in relation to hospital administration than does the medical school. It should be considered, therefore, from the standpoint of the various interests centering in the hospital, and these may be grouped as follows: The public, the trustees or governors, the medical student and the nurses' training school. At the last annual meeting of the American Hospital Association a special training school committee reported on the possibility of standardizing the teaching of nurses, but the result was not very definite owing to the present state of hospital work and the various types and associations of hospitals in cities and towns; another committee was appointed to investigate fully the subject of nursing of people of limited means in their homes and the education of trained attendants for this work. Medical counsel should be sought in reference to training schools for nurses. I move, therefore, that the president appoint a committee on nurses' training schools, consisting of five members, to confer with the state department of education when necessary; to affiliate with the other organizations on matters of common interest; to cooperate with the committee on legislation, and generally to advance the mutual interests of this society and nurses' training schools.

### Discussion on the Nursing Problem

**Dr. David R. Bowen**, Rome: Several years ago, when I was engaged entirely in family practice and had no help from trained nurses, I began to dream of the time when I might do something to mitigate the crying need for nurses for the rural and wage-earning population. Can we supply that need with justice to the nurse and with justice to the patient by having a shorter course of instruction than has been given? I think we can. I think it is possible to train the average wage-earning girl, who can read and write and spell, in one year so that she will be worth $10 or $12 a week in such families as a nurse. Certainly, in one year, with proper training, we can raise such a girl to a higher standard than that of the practical nurse who has picked up her training absolutely by herself, and empirically. The training school with which I am connected has been running two years. In that time we have done 1,000 operations, about 60 per cent. of which could be classed as major operations. There have been no cases of sepsis other than stitch abscesses, and no more of the latter than would have occurred with nurses of longer training. There is great need for this class of nurses.

**Dr. H. W. Barber**, Rochester: There is a crying need for reformation by this society along the line of nursing. Dr. Bowen voices this need for nurses among the middle and lower classes. It is safe to say, that not 20 per cent. of the people of our cities are able to pay the prices charged for trained nursing. I can hardly see, however, how it would be possible to run two classes of training schools in the same hospital. I am afraid the two would not work together; I mean the training of nurses prepared for registered graduation, and the training of, we will say, practical nurses. It seems to me that hospitals could be set aside for this particular purpose. From my observation, not more than 10 per cent. of the people employ trained nurses. But be that as it may, there is a large class of people who really need the services of nurses who are not so well trained, but who are capable of nursing in a practical way, and at much less remuneration.

**Dr. Potter**: The need for nurses at moderate prices could be overcome if we could draw on an institution for district nurses in case physicians needed help in that line. A certain number of these nurses could be made useful before they graduated. Such nurses might receive $10 or $12 a week, and this money could be turned into the nurse fund, and would not only help the hospital, but the physician and poor people.

**Dr. J. P. Creveling**, Auburn: The worst feature in connection with the system of nursing is that it is driving the better class of girls out of nursing. Take bright girls, with good education and good common sense, and very few will take a three-years' course in nursing when they understand that, after spending those three years in training, the time of their service will be about ten years, and that perhaps half of that time they will be idle, and consequently will have very little saved at the end of that period. With these facts before them, it is only natural for bright girls to seek some other business.

Mr. A. S. Downing, State Education Department, Albany: It has been my official duty to study the question of training of nurses, and to deal with the problems involved. I am in sympathy with those who believe that we should provide by statute for a class of nurses, especialy known as domestic or practical nurses, who shall go to the middle and poorer classes and give their services at moderate prices, but who, working under the immediate direction of the physician, are competent to perform the ordinary duties required by the physician in the care of the sick. There are many people in moderate circumstances who can afford to pay moderate prices for nursing, but who cannot afford to pay the extreme prices of $25 or $30 a week for such services as are rendered by trained nurses. In the consideration of this question the medical profession, the people at large, and the registered nurse must all be protected.

Dr. H. L. Hulett, Allentown: In my town we are from 30 to 80 miles from any hospital where we can get trained nurses, and even if all the people could afford to pay the price of the services of trained nurses we could not get them in our section. We need some such system of nursing as Mr. Downing mentioned.

On motion of Dr. Barber, a committee of five was appointed to confer with a similar committee from the board of regents with regard to this matter.

### Importance of Care in Closing the Abdominal Incision

Dr. Le Roy Broun, New York: It is the desire of all operators to have as small an amount of absorbable material in the wound to be taken care of as is consistent with safety. I bring the peritoneum together with a running suture of No. 1 plain gut. The muscle is coapted with a few sutures of interrupted No. 2 plain gut. In closing the fascia I have discarded the continuous suture and use No. 2 or No. 3 chromic gut, interrupted by over one and a quarter inches. The skin is brought together with a running suture of silk. I follow this plan in all ordinary operations. Lapping the fascia under certain circumstances adds to the security of the wound, but I have never felt that it was necessary except in hernias. The Pfannenstiel incision unquestionably adds much to the firmness and security of the wound. I use it in clean cases, but believe that the dissection required renders it unsafe in cases in which there is possibility of wound infection. Introduction of safety non-absorbable sutures including the skin, fascia and part of the muscle adds to the security of the wound. They are not tied until all layers are sutured. I think it important to apply a firm supporting bandage before the return of the patient to bed. The surgical dressing is covered by firmly applied three-inch adhesive strips extending well over from the loin on one side to that on the other. The strips lap one another one-third and extend well above and below the line of incision. Over all is placed a snugly applied heavy muslin scultetus binder. At the first dressing the adhesive strips are cut down through the center and laid back. This is facilitated by laying over the original dressing a sheet of gutta percha tissue. The adhesive strips are not removed for two weeks, but tightly laced up by the nurse after each subsequent dressing.

#### DISCUSSION

Dr. J. T. W. Whitbeck, Rochester: I desire to emphasize the importance of not tying the sutures tightly, especially the sutures which pass through the layers. If these sutures are not drawn too tightly and there is no sepsis, they can be left in place for two weeks and I have found in most cases that the sutures do not cut, that they remain dry and may on this account be left in place for two weeks, which in suitable cases enables the patient to sit up after the first week and to have safe union after two weeks.

Dr. Walter B. Chase, Brooklyn: A strong chain is governed by the strength of its weakest link and so the results after a median incision following operation depend on securing proper union of the transversalis fascia more than of any other structure. When the incision is not made in the median line and when it involves different layers of the abdominal wall, hernia is more likely to occur than when a median incision is made. I think added security can be given to the abdominal wall by overlapping the layers, particularly the transversalis fascia. In cases in which the abdominal wall is thick there is a possibility in suturing of a tendency to hernia. If blood or serum accumulates there it gives trouble, and in such cases I would advise putting in a small piece or wick of gauze down to the transversalis fascia if there is an accumulation of blood or serum after operation; when that is withdrawn it allows the blood to escape and aids materially in the process of healing. It can be withdrawn at the end of a day or two and it will be found that the wound will heal kindly and there will be additional safety in securing perfect union.

### Chauffeur's Fracture

Dr. William S. Thomas, New York: The type of fracture most commonly observed among chauffeurs is a subvariety of the ordinary Colles' fracture, which forms a distinct clinical entity. Immobilization of the forearm and wrist in anteroposterior splints is sufficient in a majority of cases. The fingers are left free and the patient is instructed to move them freely for by so doing a return to the normal use of the hand will be enhanced. Massage by one who is skilled in the art is of prime importance and should not be omitted. It may be begun immediately. The prognosis is as good as can be expected in cases occurring in young active adults where the deformity is but slight. The patient is usually able to resume work in three weeks with a wrist-band to be worn for a week or two after release from the splints.

### Shall all Fibroid Tumors of the Uterus be Removed with the Knife?

Dr. Frank De Witt Reese, Cortland: In most women the probable growth of a fibroid is made manifest at the first menstruation which is painful. Of my 82 patients with fibroid 77 suffered with pain at the first menstrual period. Large-sized tumors with small pedicles are better out of the abdomen than in it. Mixed fibroid tumors should be removed at once, because they may contain malignant cells which may be the leaven that will make the whole lump cancerous as the woman approaches the climacteric. A fibroid with a twisted pedicle should always be removed as soon as the condition is discovered. Certain fibroid tumors should not be removed with the knife; they are not curable by any known treatment, but stand out distinctly in a class by themselves. Two of my cases were of this variety, and the patients were operated on after I had advised against it, and both died. Of the 82 patients, 60 per cent. recovered and others are in different stages of improvement. During the period of my observation of these 82 women, I have seen 11 patients with cancer of the cervix and fundus. All but 2 of these were operated on. The findings in 9 specimens showed only 1 case in which the fibroid was associated with a carcinoma, and in this case it was a question whether the small fibroid nodules were not due to the acute irritation derived from the malignant growth. The success of the treatment of fibroid tumors depends first on early and accurate diagnosis. The early diagnostic symptom of a uterine myoma is dysmenorrhea and the decided prognostic symptom is dysmenorrhea at puberty. If local and constitutional treatment of uterine fibroid is successful, it will depend on the faithfulness of the patient and the thoroughness of the physician.

## SYMPOSIUM ON VACCINE THERAPY

### Human Glanders Treated by an Autogenous Vaccine with Recovery

Dr. A. T. Bristow, Brooklyn: The practical lesson to be learned from the case reported is that it ought to be the invariable practice in all well-organized and properly conducted hospitals to hunt down each infection to its bacteriologic source. In a few hospitals exceptionally equipped this is done, but it is not the rule, but rather the exception. The principal points of interest in the bacteriologic diagnosis of glanders in the present case may be summarized briefly as follows: 1. Isolation of *Bacillus mallei*, always in pure culture from the local lesion. 2. Negative blood cultures. 3. The difficulty experienced in demonstrating the bacilli in stained preparations of pus or exudate from the lesion emphasizes the necessity of controlling such smears with cultures. The small number of bacilli present at the site of infection bears evidence of the high virulence and powerful toxin production of this organism. 4. Positive agglutination test both of the bacillus isolated with a known serum and of a known culture by the patient's serum. 5. Positive Straus reaction.

### Treatment of Surgical Tuberculosis by Vaccines

Dr. James A. McLeod, Buffalo: After a wide experience in the treatment of the surgical forms of tuberculosis, I am of the opinion that in tuberculin we have a valuable aid. Soon after inoculations are instituted, the general constitutional condition of the patient is materially improved. He feels better, he appears better and he soon shows that he is really better by an increase in his weight. Marked improvements in *the local disease are not to be looked for until after several months of inoculation.* When operations are performed on patients previously treated with tuberculin the wounds heal as a rule promptly. The danger of secondary infection is much reduced, and when it does occur it quickly responds to the inoculations with the suitable vaccines. The dangers of a general systemic miliary infection and the dangers of lardaceous disease are practically eliminated.

### Vaccine Therapy of Surgical Tuberculosis

Dr. Lewis L. McArthur, Chicago: Although the tuberculo-opsonic index in the healthy individual is fairly constant, the variations of the same index in the tuberculous patient are influenced by so many factors as to leave the observer in doubt as to its true value. As a diagnostic method the opsonic index is not infallible. Its employment as a therapeutic guide to vaccine dosage, while desirable, is not absolutely essential. In a majority of instances it is useful for both and when feasible should be utilized. Tuberculous cervical adenitis, particularly in children, seems to yield to vaccine therapy. Since this process is always secondary to a preceding tuberculous process above, care is always taken to remove the primary focus, be it the tonsils, adenoids or other tuberculous processes, if evidence obtains of its persistence and activity. Patients with peritoneal tuberculosis with effusion have been cured in the past by operative measures. It seems probable now that a cure is and can be effected by the replacement of old serum, low in opsonins, by a serum of higher opsonic content. If the opsonic content of the blood serum be raised by vaccine prior to operative interference, the efficacy of the procedure is proportionately enhanced. Tuberculosis of the genitourinary tract has furnished to the vaccine therapist some of his most startling results. Interesting observations of such cases have been made by Hektoen. Prior to treatment he found highly purulent urine, with clumps of tubercle bacilli, free in the urine, none in the leucocyte, and great dysuria. After institution of vaccine therapy, bacilli began to be found in the leucocytes, few free, to be followed by no free bacilli, all in the leucocytes. Later fewer bacilli were found in the leucocytes and finally few leucocytes with no bacilli and no dysuria, the patient being symptomatically well. I do not wish to be understood as advocating the use of vaccine therapy to the exclusion of a single means already known to be efficient. On the contrary, known factors for good are to be added to vaccine therapy. Active immunity in an acute infection can best be secured only when the opsonic index is used as a guide. Experience in using vaccine without regard to such control has been discouraging, and throws doubt on the efficacy of the procedure.

### Vaccine Therapy in Colon Bacillus Infection of the Urinary Tract

Dr. Frank Billings, Chicago: Colon bacillūria occurs in fully 50 per cent. of cases of bacteriuria. The condition may be unattended with perceptible effect, either local or systemic. It is important to use autogenous vaccines in these cases. Cultures may be made from urine after it has been transported a thousand miles to a laboratory by one who is properly trained in bacteriologic technic. Autogenous vaccine may be made by heating the culture to 60 C. for thirty minutes. This kills the bacilli. Fresh suspensions of the dead bacillus should be used. Suspensions more than two weeks old may not give the same results. Usually the first vaccination is made with two hundred million bacilli. Subsequent dosage may be increased until a decided local and general reaction occurs. The maximum dose in my work was one billion. Experience has proved that small doses are preferable to large ones with some patients. From five million to one hundred million may produce a sufficient reaction for curative purposes and diminish the risk of a too great reaction. Absolute rest, much of the time in bed, with a copious fluid diet, chiefly milk, shortens the course of treatment, reduces the risk of chill with reaction and makes recovery more certain. The specific effect of autogenous colon bacilli vaccine therapy is proved by the phenomena of reaction, which consists of a local reaction at the point of injection, including redness of the skin, tenderness and swelling over an area from one to two inches square. This begins in 1 or 2 hours after the injection, reaches the maximum in from 12 to 18 hours, and gradually disappears by the end of from 48 to 72 hours. A general reaction occurs in from 2 to 12 hours, manifested by general malaise, aching of muscles, bones and joints, more or less headache, more or less fever, sometimes preceded by a chill and a leucocytosis. If the patient is up and about the reaction is more severe, as manifested by severe chill and fever. In many patients there is irritation manifested by pain, aching, etc., of the kidney, bladder, joints and groups of muscles, respectively, which are the seat of morbid changes, due to the colon infection. The specificity is further indicated by an increase in the opsonic index, and finally by an immunity manifested by the failure of reaction after vaccination and the disappearance of the bacteria from the urine. One should employ at the same time all rational measures to relieve the patient, as general hygiene, personal cleanliness, correction of diarrhea or constipation, hematinics, when necessary, and surgical or mechanical measures to correct anatomic faults which interfere with proper drainage of the urinary tract.

#### DISCUSSION

Dr. Norman K. McLeod, Buffalo: It has frequently been said that the opsonic index is of no value from a diagnostic standpoint, or from a curative standpoint, in regard to the dosage of tuberculin. At one time, in this country, when various serums were sent to various laboratories, it was claimed that there was a variation in the opsonic indices of from 1.5 up to 1.2, 3 and 4. This was entirely adverse to what I found, and Dr. McArthur's work on this subject in placing the index at from 1.8 to 1.2 is entirely in accord with my work. Dr. McArthur's work on the cervical glands agrees with mine, but I would like to know if he has tried inoculations before operating. I have frequently seen patients who have been operated on after several months of inoculations, and I would take these large glands and inoculate them for long periods of time, to find out whether I could stop the breaking down of the glands. In a few cases I have kept the glands from breaking down, and later, when an operation was performed, the glands could be shelled out very easily; this was followed always by primary union.

With reference to Dr. Billing's paper, I have done a good deal of laboratory work on colon bacillus infections of the bladder and urinary tract under the direction of Drs. Stanton and Jones. Recently I saw three cases of infection following confinements, and each simulated an acute streptococcus infection of the endometrium. Two were accompanied by thrombosis, and in each case cultures from the endometrium revealed nothing. I could trace no infection anywhere, except that the urine was loaded with the colon bacillus.

Dr. Charles N. Dowd, New York: Much of the observations concerning vaccine therapy would seem to hinge on the question of tuberculous lymph nodes. I agree to the advisability of using vaccine therapy in its place, but I also think that, instead of giving vaccine therapy for one or two or three months before an operation, that an operation should be done first; then, if there is any possibility of any remnant or remnants being left, the vaccine therapy may be given on that basis. There is no place in the body that offers as favorable a position for the surgical treatment of tuberculosis as the neck, and tuberculous lymph nodes can be taken out easily. They can be removed so thoroughly that recurrence seldom takes place. I speak from experience, because I have operated on over 300 patients, and have followed them for from 1 to 15 years. After operation, recurrence is not common.

Dr. Allen A. Jones, Buffalo: Does Dr. McArthur use mixed vaccines, and if so, in what doses? I gather from Dr. Billings' paper that tuberculin is being used in ordinary doses in Chicago, rather than in accordance with the doses advocated by Dr. McLeod.

Dr. Robert T. Morris, New York: At present, we are making investigations in regard to intractable leucorrhea, particularly in school girls, in whom the discharge is not virulent, although it is secretory in character. I find there colon bacillus infection, or as the cause for the disturbance a bacterium occurring in the culture medium which is produced from uteri in women who are engaged in laborious work. I wish to ask if in these cases vaccine therapy would be of service as an addition to other treatment which is not very effective.

Dr. J. Day Olin, Watertown: I have in mind a case of colon bacillus infection which occurred in my own practice following an operation, with an infarct of the kidney, in which the method that has been mentioned was followed; the local bacteriologist made a vaccine from the culture, which was used with gratifying results. The case was not at all responsive to the ordinary methods of treatment, but was easily treated in this way. I recall another case of ascending cholangitis from an infected gall-bladder, which was going to the bad, and in which the patient was treated with mixed vaccines with very good results. This vaccine treatment is not beyond the reach of general practitioners, even in places somewhat remote from the great medical centers.

Dr. L. McArthur: I have been following rather closely the dosage advocated by Wright, that is, 1/1,000 of a milligram at the commencement, and gradually increasing up to 1/500 of a milligram of the tuberculin. While the dosage with other vaccines may be raised to an enormous degree, the use of tuberculin in my opinion has not yet justified any such large amounts. I must confess that in cases that I have deemed surgical and required operation I have promptly taken out tuberculous glands in the neck. Those patients who refuse operation, and those who had already been operated on and returned with fistulas, have been treated with tuberculin beneficially. I would like to call attention to the valuable contribution of Dr. Billings, in that he has demonstrated to us as surgeons that old cases of bleeding from the kidney, which we could not determine as being due to a tumor, or as being due to the hematuria of malaria, but which we were led to incise, can be classified now as bacterial hemorrhages and can be cured by the administration of vaccines.

Dr. F. Billings, Chicago: No attempt has been made to separate the various changes which may occur from colon bacillus infection of the urinary tract from any other part of the body. Let me utter a word of caution here: I find that some practitioners are colon bacillus infection mad. While colon bacillus infection of the urinary tract is frequent, the number of individuals who suffer from it, as manifested by symptoms, are very few. The longer I study it, the more I am convinced that only a small percentage of people suffer from symptoms of infection of the colon from this bacillus; when such is the case, there is usually some morbid anatomy associated with the urinary tract, or defective drainage, such as failure to empty the bladder, or a defect in the passage or some nervous lesion of the body, which prevents good drainage of the bladder; or there is long-standing infection, such as chronic prostatitis, due to the gonococcus. When the colon bacillus is present in the urinary tract, it is said that it is apt to drive out other bacteria. That may or may not be true. It is a mixed infection, and it becomes pathogenic and aggravates the symptoms due to some other organism. I believe that it produces many systemic effects when it is there, but I do not believe that it produces any more systemic effects than some other organism in the urinary tract, nor any more than some other organisms in a focal infection elsewhere in the body. Physicians must look into this infection more than they have in the past.

I do not know whether or not this infection will produce thrombosis of the vessels. No attempt has been made to classify the results of such infections, whether local or systemic. With regard to leucorrhea occurring in young girls as the result of colon bacillus infection, I should say that the specificity of the colon bacillus as causing this infection is debatable.

### Treatment of Pott's Disease

Dr. Brainerd Hunt Whitbeck, New York: The duration of treatment of Pott's disease depends on its location and extent. Even in disease high up, presenting little or no deformity, at least two years of constant fixation should be the rule. In uncomplicated disease of the dorsal and lumbar regions, four or five years are required. Of course, the patients with no deformity would require support for a shorter time than those with deformity, for in the latter cases the deformity often shows a tendency to increase even years after the disease has become quiescent. It is wise, therefore, to continue the support for several months after all signs of disease have disappeared, and then to leave off the brace or jacket at night first, and then for a part of the day. A good indication for removing support is the disappearance of muscular spasm, which is the last symptom to disappear. Even after several years of apparent cure, recurrences sometimes take place.

### Appendicitis in Children

Dr. Charles N. Dowd, New York: The diagnosis of appendicitis in children is complicated by many factors. It is difficult or impossible to obtain a clear statement of symptoms or an accurate localization of pain, and symptoms which guide us in adults in young children are frequently due to other causes than appendicitis. Children as well as adults give localized rigidity, and its existence must be the main guide in making a diagnosis of appendicitis. The other symptoms are usually also present, and they come in the sequence given by Murphy, but for children they are to be considered as indications to look for rigidity, as guides in part rather than as independent diagnostic features. When abscess formation has occurred, tumefaction is added to the local tenderness. Since the abdomens of children are small and their appendices often relatively long, sensitiveness at a distance from McBurney's point is more common than in adults. Several conditions may easily be mistaken for appendicitis, and among them may be mentioned beginning pneumonia, general peritonitis, tubercular peritonitis, pneumococcus peritonitis, diffuse gonococcus peritonitis, foreign bodies, etc. Many authors have referred to the difficulty of distinguishing appendicitis from hip disease. I have seen one case of acute suppurative coxitis in which the diagnosis could not be made before operation. Diagnosis in children is much more difficult than in adults, but it is not so complicated as a long list of difficulties would indicate. It can generally be made by due consideration of the muscle rigidity and tumefaction and the symptoms which precede and accompany it, according to Murphy's schedule. An important element in determining the success of treatment is simplicity of operation, that is, the incision should be made well to the side, the appendix removed when practicable and the local abscess cavity, if there be one, drained, but the general peritoneal cavity should be left alone, and the intestines not manipulated or disturbed.

### Masked Appendicitis

Dr. George E. Brewer, New York: I have no explanation to offer or theory to advance why a chronic lesion of the appendix should manifest itself so frequently by functional disturbances in a remote portion of the gastrointestinal tract or in other viscera. Neither have I any explanation of the fact that definite inflammatory changes are so frequently found in the appendix without a history of some previous acute attack. For many years I refused to operate in such cases, unless I could elicit a history of an acute lesion, believing that these chronic changes could not occur except as a result of acute infection. Increasing observation, however, has convinced me of the error of this view, for during recent years many cases have been observed with gross, easily demonstrable evidences of chronic inflammation without the slightest history of an acute infection.

### Conditions Simulating Appendicitis

Dr. A. B. Johnson, New York, drew the following conclusions:

1. A large number of conditions may simulate appendicitis. 2. In many of them a careful study of the past history and of present signs and symptoms will render a differential diagnosis possible. 3. In acute cases, with an imperfect history and inability to observe the patients during the earlier hours of the disease, an accurate diagnosis may be impossible. This will be especially true of (a) perforating lesions of the alimentary tract other than appendicitis; (b) of some affections of the tube and ovary on the right side; (c) cases of well-developed diffuse purulent peritonitis from any cause; (d) among the erythema group Henoch's purpura, with abdominal symptoms may so exactly simulate acute appendicitis that no differential diagnosis is possible during the early hours of the disease.

### When to Operate in Appendicitis

Dr. Joseph A. Blake, New York: I group cases into those observed in the first twelve hours; in the second twelve hours; in the second twenty-four hours, and those observed from forty-eight hours on. In the first twelve hours it is difficult or even impossible to tell the exact condition of the appendix. In most cases the same conditions prevail during the second twelve hours as have just been outlined for the first twelve hours of the disease. In some cases, however, necrosis will have taken place and infection of the peritoneum will have commenced. When this occurs, rigidity becomes manifest. The pathologic process, however, is still confined in the great majority of cases to the immediate vicinity of the appendix, and operation should be immediately performed before infection of the peritoneum becomes established. In the second twenty-four hours, in the severer cases, necrosis of the appendix and infection of the peritoneum are usually well established. Ileus and meteorism commence and the patient begins to show the effects of a serious infection. Diversity of opinion as to the proper time to operate exists in the period comprised in the third, fourth and fifth days of the disease. It is generally considered to be the most dangerous period for operation, for the mortality following operation is greater than when done in the preceding days. There has been, therefore, a disposition on the part of many to tide the patient over until localization—abscess formation—has taken place. I am not convinced that this is the correct view to take, notwithstanding the favorable reports of those who employ the Ochsner or waiting treatment. I do not think it is correct to say that the Ochsner treatment stops extension and produces localization in all cases. I have employed it carefully in several advanced cases that seemed to me to be poor operative risks, and while some of the symptoms have abated, there has always been an increase in the subjective manifestations, and I have been constrained to operate under more unfavorable conditions. The mortality of late abscess operations is very high. The patients may not die immediately after the operation, but complications, such as sepsis, secondary abscesses, and obstructions are common, and carry them off at a later date.

### Discussion on Appendicitis

Dr. Edwin MacDonald Stanton, Schenectady: Of 274 patients with appendicitis observed by my associate and myself, 117 were operated on during the acute stage of the disease, and of this number we have had 5 deaths, a mortality of 4.2. In analyzing our results some time ago I found that most of the trouble came in these cases at forty-eight hours from the onset of the attack, when we thought that by making a small incision and relieving tension we might shorten the convalescence and save the patients a long stay in the hospital from sepsis, etc. But these cases we have trouble with. All patients put on the Ochsner treatment have done well. The improvement in the physical signs has been just as rapid as in the cases in which we have operated, and the patients are well and alive to-day.

Dr. Robert T. Morris, New York: In children we have the A, B, C of appendicitis diagnosis, namely, AA, acute attack; CC, colic and constipation. Tenderness or hypersensitiveness at the site of the left group of lumbar ganglia is a distinctive feature in diagnosis. Pneumonia may be mistaken for appendicitis. I have had one such case in which I was misled. With pneumonia in the first stage, if there is no hypersensitiveness on deep pressure at the site of the right lumbar ganglia, look for something else than the appendix for the irritation. Tuberculous peritonitis in children is sufficient excuse for operating, and in some of these cases the appendix may be at fault. I have not worked up the point in reference to tenderness of the right group of lumbar ganglia in coxitis, although I believe that is important. The blood count is apt to be misleading in these cases of acute infection. The Ochsner treatment simply means preparation for operation.

Dr. A. Jacobi, New York: Dr. Brewer has told us that he has made several mistakes in diagnosing the class of cases under consideration. In many instances the diagnosis is not made accurately even by eminent surgeons. If we could have statistics of mistaken diagnoses, it would help a good deal, and it would justify the mistakes that are made by general practitioners. At a session of the American Medical Association, held at Atlantic City, when the difficulty of making an accurate diagnosis of appendicitis in children came up, I reported a case in which half a dozen eminent physicians were called in consultation, and the only man who insisted on operation was a physician, not a surgeon. Operation was refused. The patient died, and autopsy revealed a general septic peritonitis, with perforation of the appendix, and a large amount of pus in the peritoneal cavity. I have frequently found the diagnosis of appendicitis difficult to make in children. Small children are much disposed to appendicitis, and we should not forget that there is a great deal of difference anatomically between the small infant and the adult. The small infant has a great many more lymph vessels, lymph ducts and lymph bodies than the adult. Moreover, there is plenty of opportunity in their appendices for accumulation of these very small lymph bodies. The length of the appendix in a small child is about one-tenth the length of the colon in that same child. In the adult, the length of the appendix is about one-twentieth the length of the colon. The appendix is more funnel-like in the child, and in a great many cases behind the funnel there is a contraction, so that when there is a foreign body in the appendix in the shape of mucus or other material it cannot get out. There are many reasons why small children should have appendicitis. If the masters of surgery will teach general practitioners how to make perfect diagnoses, there will not be so many chances for blaming us for not calling them in to operate more promptly. The fault does not always lie with the general practitioner.

Dr. William W. Skinner, Geneva: There is one point in diagnosis which has helped me in many cases. If one carefully observes the skin over the entire abdomen, especially by stretching it slightly in different directions to obliterate the little corrugations which render the skin partially opaque, thus increasing its translucency, it will be found over the inflamed appendix that the veins are darker, as compared with the veins in other regions of the abdomen. The veins which are particularly affected are those just internal to the anterior superior spine of the ilium, running upward and slightly inward, almost parallel with the outer border of the rectus muscle. This sign alone has enabled me many times, in the absence of definite signs of localized tenderness, rigidity, and the other classical signs, to make a differential diagnosis between pelvic inflammation and inflammation of the appendix.

### Surgical Considerations of Acute Diffuse Phlegmonous Gastritis

Dr. Richard Ward Westbrook, Brooklyn: This disease is rare; it is a streptococcus infection of the stomach wall analogous to cellulocutaneous erysipelas. No authentic case of recovery has been reported so far. The case of recovery reported by Mikulicz is not to be taken as correctly diagnosed. He reported a case that came under his own observation, the first to be diagnosed at operation. He believes that early partial gastrectomy is a possible means for operative success.

# Medicolegal

## Admissibility of Evidence of Declarations and Acts of Patients

The Court of Appeals of Kentucky says, in Chesapeake & Ohio Railway Co. vs. Wiley (121 S. W. R., 402), a personal injury case brought by the latter party, that it is a familiar rule of evidence that statements of a party not under oath, and which are favorable to his cause, are not receivable. They are deemed self-serving, and are known to be unreliable evidences of the truth in general. His conduct of the same character, done for the same purpose, is, for the same reason, not receivable in evidence. The question is not whether what he said was true, or whether what he did was a natural, unstudied act, but whether the principal fact may be proved in that way. Illustrating by the case at the bar, that the plaintiff was sleepless, nervous, weak, and had pains, might all be proved, but the question was, how?

Hearsay evidence is generally irrelevant; but there are many exceptions to the rule. The exceptions are in the main based on the experience of jurists as well as of men in general that in the particular matter the statement was made under such circumstances as warrant a belief in its truth.

One of the exceptions to the general rule is that in a case where pain, or a state of health, is a fact at issue, the natural, spontaneous, and usual expressions indicating pain and suffering may be shown, as generally that is the only way in which, aside from the testimony of the sufferer, the existence of pain may be proved. So of other mental states; but it is the invariable rule that the expression should accompany immediately and naturally flow from the pain then being suffered, otherwise it becomes a narrative of a past event, and is not receivable in evidence in court to prove that the pain had existed. Such expressions or manifestations of pain or any mental state which is at issue in the case may be shown by any observer, whether physician or not.

Another exception, though it belongs to the same class, is that where one suffering from an ailment seeks medical assistance or advice, it is competent to show what he then told his physician as to his symptoms, but never as to the cause of an injury, because it is believed that the motive for telling the physician the truth as to his sensations of pain, suffering, or history of his ailment, so as to enable him to relieve the suffering, or save the life of the patient, is greater than could be the motive of making a merely self-serving statement to be used in his behalf by the man in some other affair. This allows more than if the same statement had been made to one not a physician or nurse, from whom the patient was expecting aid or physical relief, because in the instance of the physician or nurse there is present a motive for telling the truth that is not present when the same matter is told to one from whom the relief is not sought. If the act or statement is the natural, ordinary, and probable expression of one in that condition, it is deemed to be probably true, and is receivable as evidence of the state which it indicates, and because from the nature of the matter it may be the only evidence of the fact.

There is another ground on which the evidence of the character discussed (that is exclamations indicating pain, or emotion, and declarations as to sensations, as well as the conduct of a person whose pain or sickness is at issue) is receivable; that is, when it is part of the res gestae, or essential elements of the case. If it is relevant to show the physical condition of the person, such as that he was injured or made sick, not only what a witness has seen and testifies to is relevant, but the exclamations or statements of the person which are the natural spontaneous expressions ordinarily made by one who suffers such pain or illness, are receivable as verbal acts; and on the same principle, his actions, such as naturally and spontaneously result from such injury or illness, may be proved. They are the best evidence obtainable of his condition, and in many instances the only evidence of it aside from his own testimony, should he testify. They may be even more convincing evidence of the main fact than the opinion of an observer, or even the opinion of the declarant himself.

But this court, to which the question was presented for the first time in this case, is against extending the exception to the general rule of evidence which excludes hearsay to include the statements and conduct of a party not made under the conditions which have been discussed above. More particularly, it holds that it was error to admit the testimony of three physicians who examined the plaintiff, but did not treat him, when none of the physicians dissociated his opinion based alone on objective evidences in the patient as to his condition from what he had received from the plaintiff of a character held inadmissible.

## Mental Weakness Due to Physical Infirmity is Not Mental Unsoundness—Condition at One Time Not Evidence as to Another

The Supreme Court of Iowa says, in the will case of Speer vs. Speer (123 N. W. R. 176), that the disease of which the testator or maker of the will died was described by the witnesses as bronchopneumonia with pleurisy, with which he had been seized about five days before the will was executed, and of which he died the second day after its execution. As his sickness was wholly physical, proof of his condition as to lethargy, suffering, or unconsciousness on days preceding or following the execution of the will was entitled to very little consideration; the sole question being whether at the time of its execution he was conscious and able to understand what he was doing. Only two of the witnesses saw him on the day when the will was executed. Neither of them was present at the time of its execution, or attempted execution. They spoke of his physical weakness, his failure to recognize them, and his apparent inability to converse as to his condition or his affairs. The court is unable to find anything in the record substantially tending to show that the testator may not have been in such condition when the will was in fact executed that he could understand what he was doing and express his deliberate purpose as to the disposition of his property.

Mere mental weakness, not due to mental disease, but solely to physical infirmity, does not constitute mental unsoundness. On the other hand, it is well settled that there may be testamentary incapacity without actual insanity or unsoundness of mind. But mere weakness of mental power will not render a person incapable of executing a will. It is not necessary that the testator should be competent to make contracts or transact business. Old age and failure of memory do not necessarily take away a testator's capacity to dispose of property.

Statements of a witness as to the testator's condition, relating to the day following that on which the will was executed, as that he "seemed to be suffering," "seemed to be in a stupor," and did not talk to her that day "because he was too sick," could not, under the circumstances of the case, be considered as showing what his condition was on the preceding day. He was suffering from a progressive illness, and he may well have been in a much worse condition than when he signed the will. Likewise, what a witness said as to the condition of the testator two days before the will was executed could under the circumstances have been entitled to no weight, for, as already said, the testator was seriously sick, and there was no presumption that his mental faculties, as affected by such sickness, were not in entirely different conditions on those two days. In short, here was a case where a man suffering from disease, but of perfectly sound mind, so far as the evidence tended to indicate, was at times conscious, recognizing those about him and fully aware of his conditions and surroundings, while at other times he was in a stupor or apparently asleep, and the court thinks that the opinion of a witness based on the testator's condition at a time other than that at which the will was executed would have no probative force with reference to his condition when the will was made.

## Commission of Crime of Rape by Boy Under Fourteen

The Supreme Court of Mississippi reverses, on the appeal of Geason vs. State (50 So. R. 488), a conviction of a boy under 14 years of age of the crime of rape. The ground for this was that there was no evidence of the boy's mental capacity to entertain a criminal intent, or of his physical ability to commit the crime of rape. A criminal intent, the court says, is an essential element of every crime. Such an intent cannot be entertained by an infant until it has developed sufficient intelligence and moral perception to enable it to distinguish between right and wrong and to comprehend the consequence of its act. Under the age of 14, an infant is presumed not to have reached this state of development, and to be incapable of entertaining a criminal intent. But as in fact the age at which children reach this state of development varies, this presumption between the ages of 7 and 14 is only presumptive, and can be overcome by proof. Under the age of 7 this presumption is conclusive. In the crime of rape, in addition to mental capacity to entertain a criminal intent, there is also involved the element of physical ability to commit it, and this physical ability cannot exist until the infant has arrived at the age of puberty. In most jurisdictions, an infant under the age of 14 is conclusively presumed not to have arrived at the age of puberty, and hence incapable of committing rape. But the rule, and this court thinks the safer rule, in some jurisdictions is that this presumption is only a prima facie one, and can be overcome by proof.

### Saving Clause Necessary for Completion of Prosecutions After Repeal of Law

The Supreme Court of Washington says that the defendant in the case of State vs. Hanover (104 Pac. R. 624) was charged with practicing medicine without a license, convicted and sentenced to pay a fine. The prosecution was under the act of 1890. The information alleged that the offense was committed on Oct. 26, 1908. The trial was had in the month of April, and the judgment was entered on May 1, 1909. But between the date when the offense was charged to have been committed and the date of the trial, the state Legislature passed a new act regulating the practice of medicine and surgery, repealing prior acts, which new act took effect on its approval, namely, March 18, 1909. This act, however, contained no saving clause for the prosecution of offenses committed under the old law, and therefore it is held that, under well-settled principles of law, there was no authority at the time of the trial for the prosecution of the defendant on the offense charged, and the judgment rendered against him must be reversed. As said by this court in another case, the repeal of a statute pending a prosecution thereunder, without any saving clause as to such prosecution, will prevent its being further prosecuted, and this rule applies as well after judgment and sentence, pending an appeal duly taken therefrom, as before the final determination in the trial court.

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# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### Medical Record, New York

*February 12*

1 *Pneumonia in the Aged. Treated with Pneumococcus Vaccine; Recovery. H. A. Craig, New York.
2 Hyperchlorhydria. F. B. Turck, Chicago.
3 Rôle of Cerebral Lesions in Infancy and Childhood in the Causation of Epilepsy. M. L. Perry, Parsons, Kan.
4 Noma Followed by Cicatricial Contraction of the Jaws. W. C. Lusk, New York.
5 *Quick Method of Examining Stools; its Significance for Diagnosis and Treatment of Some Intestinal Disorders. M. Gross, New York.
6 Early Diagnosis of Carcinoma of the Sigmoid. G. A. Friedman, New York.
7 Examination of Urine at the Bedside. G. Richter, St. Louis.
8 *Letters to a Neurologist. J. Collins, New York.

1. **Pneumonia Treated with Pneumococcus Vaccine.**—Craig says that practically all the inmates in the Sailors' Snug Harbor Hospital are over 60 years of age, with the result that the usual mortality from pneumonia has been 66 per cent. Recently, however, all lobar pneumonia cases have been treated with an autogenous vaccine obtained from the pneumococci in the patients' sputum. Since this treatment was introduced there have been 8 cases; the patients varied in age from 66 to 83 years, and all recovered.

5. **Quick Method of Examining Stools.**—Gross emphasizes that it is important to examine the stools after a mixed diet, after the use of castor oil, and after a test diet used for three days, in order to compare results. The normal stool is light brown, odorless and neutral, or slightly alkaline. Fatty stools are light, foamy and acid. Fat drops show, and fatty acids in crystals are seen, besides soap crystals. These are found in icterus, disturbed pancreatic secretion, and changed intestinal secretions. Meat stools show fibers and light yellow muscle remnants. Connective tissue stools show white particles. Mucus may be seen in transparent spots and masses. This always indicates irritation and catarrh. Large deposits may be referred to the large intestine; finer ones come from the small intestine. Carbohydrate stools are of a sour, pungent odor, and acid reaction. The starch is found in filled cells or granules. They are colored blue by iodin. Bacteria are present in large numbers. These show disturbances of the small intestine and pancreas. Reagents are given for testing the different kinds of stools. The author treats all these disturbances by easily digestible food with little irritating material, avoiding the materials that are badly digested.

8. **Letter to a Neurologist.**—Collins receives a letter from a self-centered woman who has dwelt on a supposed injury from childhood, allowing it to separate her from her parents and home, and magnifying it until it has impaired her powers of work and of happiness. He prescribes for her a life for others and the forgetting of her injuries. Another element in his prescription is a happy marriage and energies bent on the care of her household.

### Boston Medical and Surgical Journal

*February 10*

9 Prevention and Inhibition of Peritonitis, with Special Reference to the Harm Done by Cathartics in Incipient Peritonitis. A. J. Ochsner, Chicago.
10 *Suggestion: The Mainspring of Hypnotism and Psychotherapy. J. S. Lewis, Buffalo.
11 The Falsetto Voice and its Relation to Spastic Aphonia. A. Myerson, Boston.

10. **Suggestion in Therapy.**—The author claims that the average physician may employ suggestion at its full value without charlatanism, without mysticism, without deception, in common-sense suggestive treatment. The patient who leaves a hospital with the delusion that he has been drugged to sleep by virtue of a capsule containing powdered sugar is in a sense no better off than the one who leaves with a discharging sinus or a crutch. Lewis says that it should be our endeavor to supplant the bread pill, the "bluff wafer" and the sterile water hypodermic injection by verbal suggestion, or, if time be lacking, use these helps only until such time as we can tactfully give to the patient the key to his functional disorder. Lewis would use these means to distinguish between what is functional and what is organic. But once the condition is clear, the patient should be given the use of that power with which suggestion has invested the bread pill or the water "hypo." For the competent, there is still hypnotism when the weaker suggestion fails. Is it vain to hope, asks Lewis, that this generation shall see many hypnotists in this country, who, like anesthetists, devote their time to this specialty and in particular to the difficult cases? There is need of men who can write and talk intelligibly to their colleagues.

### New York Medical Journal

*February 12*

12 Contractile Elements in the Connective Tissue. J. Wright, New York.
13 *Gall-Stones with Reference to Cancer of the Gall-Bladder. A. Vander Veer, Albany.
14 Diseases of the Colon. E. Martin, Philadelphia.
15 Medical Aspect of Diseases of the Colon. L. Weber, New York.
16 *Problems Involved in a Case of Typhoid in Pregnancy. S. M. Brickner and B. S. Oppenheimer, New York.
17 Cancer of the Intestine. J. G. Sherrill, Louisville, Ky.
18 Gall-Stones as an Etiologic Factor in Chronic Pancreatitis. J. A. Kelly, Philadelphia.
19 Perforation and Rupture of the Gall-Bladder. F. T. Meriwether, Asheville, N. C.
20 *Congenital Absence of the Gall-Bladder. J. J. Hoffman and J. A. Jackson, Indianapolis.

13. Abstracted in THE JOURNAL, Jan. 15, 1910, p. 233.

16. **Typhoid in Pregnancy.**—The case reported by Brickner and Oppenheimer was a normal pregnancy, with the exception of an intercurrent typhoid. Prochownic diet was given. Pre-

mature labor took place at 8 months. It was a dry labor, necessitating the use of low forceps for a prolonged second stage. From the obstetric standpoint there are two elements in the case aside from the technical interest, which are of special moment. The first of these is the fact that despite continued high temperature, the patient did not spontaneously miscarry, although for a few days in the early part of her illness, she had frequent contractions of the uterus. The other point of interest lies in the demonstrated fact of the impermeability of the placenta to the typhoid toxins. Although the mother's blood at the moment of birth was distinctly positive to the Widal reaction neither the placental blood nor the infant's blood gave any reaction.

20. **Congenital Absence of the Gall-Bladder.**—*In this case,* the gall-bladder was absent, but the common duct was continuous from the intestines into the liver substance, passing through the normal location of the gall-bladder. *In the* region of the gall-bladder it was wide and tortuous. By careful dissection it was seen to divide and subdivide. One of the subdivisions of the duct led into a globular mass, on the inferior surface of the upper portion of the left lobe near the esophageal region, size of an orange, which was an abscess filled with about three ounces of grayish pus. The walls were irregularly ragged, having a fibrous base. It also contained some degenerated material. The common duct measured at the mucous surface of the duodenum two centimeters in diameter; at the outer surface of pancreas it measured four centimeters.

### Northwestern Lancet, Minneapolis

*February 1*

21 *Unnecessary Blindness. F. C. Todd, Minneapolis.
22 *Etiology and Prophylaxis of Ophthalmia Neonatorum. J. C. Litzenberg, Minneapolis.
23 What Cases of Tuberculosis are Suitable for Treatment at the State Sanatorium? W. J. Marcley, Walker, Minn.

21, 22. Abstracted in THE JOURNAL, Nov. 20, 1909, pp. 1849, 1850.

### Medical Fortnightly, St. Louis

*January 25*

24 Work in the Laboratories of Europe. L. H. Warner, Brooklyn.
25 Recent Advances in the Surgery of the Accessory Sinuses of the Nose. R. H. T. Mann, Texarkana, Ark.
26 *Acquired Syphilis Occurring in an Hereditary Syphilitic. C. D. Scott, St. Louis.

26. **Acquired Syphilis in a Hereditary Syphilitic.**—The patient in question suffered at the time of birth and up to a period (the exact date of which it is impossible to determine) from hereditary syphilis as evidenced by the characteristic tibial deformity (saber tibia), enlarged radial heads, Hutchinson's teeth, stunted growth; and perhaps by the family history, which although not yet fully investigated, discloses the facts that a brother and sister died of some unknown cause within a few days following birth, and that his living brother, in childhood was affected with similar (saber) tibiæ, from which, at present, he has in a large measure recovered. The patient, at some period, at present unknown, emerged from the immunity conferred by his congenital syphilis, and in time sustained a second infection with syphilis, this time with the acquired type, as manifested by the orderly appearance of a characteristic initial lesion, generalized adenopathy, papular eruptions, pharyngitis, and a mucous patch on the upper gum, from which *Spirochæta pallidæ* were demonstrated. These conclusions being accepted, Scott believes he is justified in stating that a complete recovery from hereditary syphilis has occurred.

### Journal of Nervous and Mental Diseases, Lancaster, Pa.

*January*

27 *Errors in Diagnosis of General Paresis. E. E. Southard, Boston.
28 Type and Distribution of Sensory Disturbances Due to Cerebral Lesion. C. D. Camp, Ann Arbor, Mich.
29 Tumor of the Pons. P. Zenner, Cincinnati.

27. **Errors in Diagnosis of General Paresis.**—Two hundred and forty-seven cases of insanity were observed by Southard in the Danvers daily clinics and later autopsied in the pathologic laboratory during the years 1904 to 1908 inclusive. Sixty-one of these 247 cases, namely, 25 per cent., were diagnosed with more or less certainty as cases of general paresis; 41 of these 61 cases were regarded as clinically certain, since every one present at the clinic committed himself to the diagnosis. Seven of the cases may be regarded as clinically probable, since the majority of staff members favored the diagnosis. Thirteen cases are classified as clinically dubious, since, although the diagnosis of general paresis was prominently considered, other diagnoses were also possible. The clinically dubious group includes also cases in which diagnostic doubt was expressed by several staff members.

Seventy per cent. of the cases in which general paresis was certain, probable, or even prominently considered, proved histopathologically cases of general paresis. Less than 1 per cent. of a series of 186 cases in which the diagnosis of general paresis was not considered, proved to be instances of general paresis. The lesions probably responsible for the errors in diagnosis were: (a) meningomyelitis and subcortical encephalitis (luetic?), one case; (b) tabes dorsalis and non-paretic cerebral disease, two cases; (c) arteriosclerotic brain disease with severe cerebellar involvement (dentate nuclei), two cases; (d) cerebral sclerosis (type, perivascular, gliosis), one case. Although at first sight a probable error of 15 per cent. in the diagnosis of general paresis might suggest difficulties in possible medicolegal cases, it is obvious that, were the diagnosis confined to "incurable insanity" or even to "organic brain disease," the error would disappear. However, two cases proved to be general paresis (on the plasma-cell criterion) in a series of 186 cases similarly examined in which the diagnosis of general paresis was not considered. Southard suggests that improvements in our diagnostic ability could perhaps be introduced by lumbar puncture and cytologic examination in a greater proportion of cases.

### Woman's Medical Journal, Cincinnati

*January*

30 Genesis of Genius. L. G. Rabinovitch, Paris.

### Journal of Ophthalmology and Oto-Laryngology, Chicago

*January*

31 Impressions of a Visit to New York. J. S. Fernandez, Havana, Cuba.
32 Extirpation of the Tonsil. M. Iverson, Stoughton, Wis.

### Wisconsin Medical Journal, Milwaukee

*January*

33 *Relations of Occupations to Medicine. D. L. Edsall, Philadelphia.
34 *Vaginal Hysterectomy; New Operative Technic to Establish a Sound Pelvic Floor and to Prevent Cystocele. R. Elmergreen, Milwaukee.
35 *Resection for Tuberculosis of Hip-Joint. H. Greenberg, Milwaukee.
36 *Detection of Tubercle Bacilli in the Blood by Rosenberger's Method. M. P. Ravenel and K. W. Smith, Madison.

33, 35, 36. Abstracted in THE JOURNAL, Aug. 21, 1909, pp. 648, 649.

34. This article appeared in THE JOURNAL, Oct. 23, 1909, p. 1355.

### United States Naval Medical Bulletin, Washington, D. C.

*January*

37 *Chronic Non-Suppurative Osteoplastic Periostitis of Traumatic Origin. G. Pickrell and L. M. Schmidt, U. S. Navy.
38 Shooting Glasses for Riflemen. C. S. Bogert, U. S. Navy.
39 Suggestions on Taking Finger Prints. J. D. Hall, U. S. Navy.
40 Meat Poisoning in the Navy. L. W. Curtis, U. S. Navy.
41 *Runner's Cramp: A Peculiar Occupation Neurosis. L. M. Schmidt, U. S. Navy.
42 Venereal Prophylaxis. W. J. Zalesky, U. S. Navy.
43 Medical Conditions in the Fiji Islands. R. A. Bachman, U. S. Navy.

37. **Chronic Non-Suppurative Osteoplastic Periostitis.**—Three cases of this affection are recorded by Pickrell and Schmidt which were due to a single severe crushing injury. The tumors produced varied greatly in size and shape. In one the summit was broad and extended far beyond the base which formed a pedicle and gave the entire mass an anvil appearance. In another, the tumor was shaped like a thick piece of rope, with ridges like strands of rope twisted one about the other. The third was an even, oval enlargement. The periosteum in each case was thick, adherent and very vascular. The surface of the bone in two cases was extremely irregular and in one comparatively smooth.

The internal structure of the tumors varied greatly. The large anvil-like growth had an outer hard compact shell of about one-eighth inch, inside of which was a structure-like cancellous bone which contained numerous cavities filled with dark bloody fluid. This part of the growth was very vascular and bled freely. Near the base of this growth was another portion of compact tissue which also had the shape of an anvil. The other two tumors were of a dense compact structure throughout. The microscopic picture of the first growth in each case was similar. It showed areas of fairly typical bone interspersed with areas of round cells. These round-cell areas could not be distinguished by the pathologists from the round cells of sarcoma and in each case were classed as suspicious, and radical operation advised in case of return of the growth. The microscopic picture of the recurrences depended on the disposition made of the periosteum at the previous operation. Where the periosteum has been preserved and replaced, the recurrent growth had a structure similar to that of the first. Where the periosteum had been destroyed the return growth had the microscopic structure of lime infiltrated scar tissue.

In all three cases the original injury to the thigh was severe and temporarily disabled the victim. In all cases prompt and almost complete recovery from the concussion followed. Only after some weeks or months did there occur local symptoms to indicate that anything more serious than a bad bruise had resulted from the impact. Pain began to be noticed in the affected thigh. It was worse at night and of a dull, boring character. A local tenderness appeared. Walking began to produce discomfort and there was associated a limping gait. The general health in all patients became impaired. In all cases after removal of the first growth there was complete relief of pain, and each man began to gain in weight and the pallor disappeared. With the return of the tumor, weight was lost, pain, especially at night, was severe, and the former pallor returned. The authors advise early operation to limit the extension of periosteal involvement, and that the periosteum involved should be destroyed completely. Iodin and carbolic acid are not sufficiently destructive and the actual cautery should be used. Every effort should be used to prevent accumulation of blood clots adjacent to the bone, following operation.

41. **Runner's Cramp.**—While attempting his daily practice for a mile run the patient experienced pain across the arches of both feet; he continued running that day, but the pains became worse and when he had completed about a mile he could no longer stand on his feet, and was compelled to sit down, still suffering severely from pain across the arches and now extending to the anterior part of the legs. He discontinued running for the day. On rising, next day, the pains had subsided and he had no trouble in walking; when he attempted to run, however, every attempt to rise on the toes was accompanied by severe pain similar to that of the previous day; there was still no pain while walking.

About the third day, when attempting to run, a severe cramp occurred in the right leg, involving the calf and toes. The cramp soon disappeared but soreness persisted for several days. He steadily developed more pain on attempting the toe position, and finally mild pains persisted during the periods of rest; when he remained entirely off his feet for a day all symptoms subsided. The toes were dorsiflexed, so that no part of them touched the floor when the patient walked; the extensor tendons of the toes were very prominent and evidently held the toes in this awkward position; the feet were well arched; a very thick callous existed under the ball of each foot. Rest in bed for two days caused all pain to disappear, but the toes were still hyperextended. Soreness in the arch of foot persisted for some time, but did not interfere with walking. Eventually recovery was complete.

## Therapeutic Gazette, Detroit

*January*

44 Recognition and Treatment of Malignant Disease of the Uterus. E. E. Montgomery, Philadelphia.
45 Treatment of Gastric Complications of the Earlier Stages of Pulmonary Tuberculosis. R. G. Torrey, Philadelphia.
46 Advantages of Alypin Anesthesia. F. M. Fernandez, Havana, Cuba.
47 Gastroptosis. A. M. Galloway, Asheville, N. C.
48 Surgical Treatment of Incomplete Abortion. J. E. Cannaday, Charleston, W. Va.

## Surgery, Gynecology and Obstetrics, Chicago

*January*

49 *Serotherapy of Purulent Processes. E. Gergö, Budapest, Hungary.
50 *Production of Shock by Electric Stimulation of the Abdominal Sympathetic Ganglia. W. B. Fowler and R. N. Parker, Chicago.
51 *Incontinence of Urine Following Labor. G. B. Miller, Washington, D. C.
52 *The Subinvoluted Uterus. R. R. Smith, Grand Rapids, Mich.
53 Multilocular Cysts of the Jaws. D. D. Lewis, Chicago.
54 *Diagnostic Value of Distention of Renal Pelvis Through the Ureteral Catheter. L. Freeman, Denver.
55 *Premature Menopause. M. M. Stark, New York.
56 Changes in the Normal Endometrium During Menstrual Life Based on Study of 100 Cases. C. C. Norris and F. E. Keene, Philadelphia.
57 Pulsating Exophthalmus: Ligation of Internal Carotid. A. E. Halstead and A. J. Bender, Chicago.
58 The Saccular Theory of Hernia. A. MacLennan, Glasgow, Scotland.
59 *Noma. M. F. Porter, Fort Wayne, Ind.
60 Bier Treatment in Tuberculous Joint Disease. L. W. Ely, New York.
61 History and Technic of Extraperitoneal Cesarean Section. T. J. Doederlein, Chicago.
62 *Treatment of Abortion. H. M. Stowe, Chicago.
63 Plastic Surgery of Abdominal Wall. R. C. Coffey, Portland, Ore.
64 Unusual Case of Congenital Malformations. H. L. Kretschmer, Chicago.
65 Injuries of the Elbow Joint. J. E. Owens, Chicago.
66 Bullet Extracted from Hip-Joint. E. H. Ochsner, Chicago.

49. **Serotherapy of Purulent Processes.**—One hundred and sixty carefully observed cases form the basis of Gergö's communication. In the treatment of abscesses of the soft parts (128 cases) repeated injections and aspirations of the abscess cavity with serum are made, thereby thinning the thick pus and allowing a more thorough cleansing. The abscess cavity is then injected with clean serum—a quantity amounting to from one-third to one-half as much as the aspirated pus. The point of puncture is then covered with gauze and adhesive plaster. Healing proceeds rapidly and definitely. In infiltrating suppurations or more diffuse inflammations, *e. g.*, felon, phlegmon, carbuncle, diffuse phlegmonous mastitis, etc. (16 cases), healing can be accomplished only after the infiltrating process has gone on to a well-circumscribed abscess. Otherwise, the only value of the method in these cases lies in the fact that wherever the serum comes in intimate contact with the wound, the secretion ceases, the exudate and necrotic tissue become separated within a few days, and the wound soon becomes clean. In bone suppurations (4 cases) the laying open of the bone focus followed by many weeks of progressive treatment with serum irrigations, serum packs, or serum injections resulted in nothing more than a cleansing of the soft parts of the wound. Bone fistulas (5 cases) are subject to the same criticism as bone suppurations. Fistulæ of the soft parts (7 cases) especially when they were large and superficial and therefore suitable for serum tamponade, soon showed a narrowing, a diminution of their discharge and a filling of the fistula with clean granulations.

50. **Shock by Electric Stimulation.**—Fowler and Parker found by experimentation that a dog by the loss of 2 per cent. of its body weight in blood is rendered susceptible to death when its abdominal sympathetic ganglia are stimulated with a 20 milliampere galvanic current. They offer the following explanation of the death of the animals: A dog has a limit of endurance and when that limit is exceeded he dies. While the loss of 2 per cent. of the body weight in blood is not sufficient to destroy the average dog, it so weakens him that the application of a moderate electric current to his abdominal sympathetic ganglia is sufficient to turn the balance in favor of death.

Their experience convinced them that undue manipulation of the abdominal viscera and exposure of the animal to cold during the operation makes for the same result. They believe that it is immaterial whether the method of weakening the animal is by means of peritonitis, hemorrhage, or any kind of trauma that produces the requisite shock, and that it is immaterial whether the final and fatal shock is from an electric current applied to the abdominal ganglia or to any other part of the body, or whether the shock is produced in any other way, the result will be fatal when the dog's limit of endurance has been reached.

51. **Incontinence of Urine Following Labor.**—That the incontinence which comes on immediately after labor due to swelling, etc., of the urethra and bladder neck, as a rule, soon sub-

sides without treatment is Miller's experience. Later, he says, one should make a careful examination of all the pelvic organs, replace a retroposed uterus when necessary, hasten involution of the pelvic structure by douches, tampons, pessaries, etc. In persistent or increasing incontinence some operative procedure is usually necessary. The nature of the operation should depend on the condition of the urethra and bladder neck. The Frank operation, combined with an anterior and posterior colporrhaphy, in cases in which there is a relaxed and gaping vagina, and some appropriate operation for retroversion, when this exists, will, in Miller's opinion, cure the average case of incontinence coming on after labor, and of not too long standing. In cases in which there is a marked dilatation of the urethra of long standing, or cases in which from necrosis the muscular wall of the neck of the bladder and urethra are wanting, Miller found Gersuny's operation to offer the best hope of cure.

52. **Subinvoluted Uterus.**—Smith briefly sketches the life history of the uterine musculature; gives an outline of the pathology of subinvolution and the general plan for its treatment, and reports 23 cases treated by hysterectomy. Of the 23 patients, the youngest was 35, the oldest 55. Nine of the 23 were losing so much blood at or between menstrual periods as to be serious. Five had profuse flowing, enough to warrant active interference. In 9 the flow was practically normal, if present at all; they were suffering simply from the marked pelvic discomfort to which such patients are subject. In 12 of the patients the position of the uterus was practically normal; in 6 there was retroversion, in four there was some tendency to prolapse, in one there was a considerable amount of prolapse with retroversion, but the uterus was very large and this formed the chief indication for its removal. There was no mortality in this list nor unusual convalescence from operation. The patients have all been practically free from every symptom referable to the pelvis. Smith thinks that we have been too conservative with such patients, and urges that hysterectomy be done more frequently than is now commonly practiced. On the other hand, no hysterectomy should be done without careful weighing of every point *pro and con.* The things that have the most weight in Smith's mind are: (1) the long continuance of the symptoms; (2) severe loss of blood; (3) the non-relief by simple procedures; (4) the age of the patient; (5) the size and condition of the uterus.

54. **Diagnostic Value of Distention of Renal Pelvis.**—Freeman cites several cases in which this procedure justified itself. A woman was referred to him with a movable right kidney producing, supposedly, much disturbance in the right side which incapacitated her for her various duties. There seemed to be little, if any, question regarding the diagnosis; but, largely for the sake of mere experience, Freeman dilated the renal pelvis with a solution of boric acid. When the distention became great enough to produce pain this was totally different from that usually experienced by the patient, her habitual pain being lower down, in the region of the appendix. Hence Freeman concluded that the trouble was not in the kidney but in the appendix, this view being confirmed by subsequent operation.

In another case, a woman complained of a very annoying intermittent pain in the left iliac region, extending up into the back toward the kidney. A renal difficulty being suspected, the ureter was catheterized and the pelvis of the kidney distended with normal salt-solution. The pain produced was entirely different from her usual discomfort and was located in the back over the kidney itself. This resulted in a pelvic operation with the removal of a diseased tube and an ultimate cure.

Freeman says that as with other means of diagnosis, excessively nervous or hysterical individuals may be difficult to deal with, and it is possible that erroneous conclusions might be reached; but this does not occur often and affects the general usefulness of the procedure but little. With children many difficulties exist, relating to the use of the cystoscope, the impossibility of controlling the patients, and the unreliability of their statements. A woman had been excessively annoyed for a long time with pain rather low down in the right side of the abdomen, combined with irritation of the neck of the bladder. Examination of the urine, an *x*-ray picture of the kidney, and a skin test for tuberculosis revealed nothing of importance. She had been in the hands of several excellent physicians who had variously diagnosed ovarian trouble, a tubal lesion, and appendicitis, while one had frankly confessed himself completely at sea. Freeman dilated the renal pelvis, which contained vastly more than normal, and immediately all the symptoms were reproduced, just as they had always presented themselves, thus demonstrating the presence of intermittent hydronephrosis.

The technic of the procedure is simple enough and is devoid of danger, providing the ordinary rules of asepsis are observed. The end of the catheter must be inserted completely into the renal pelvis and not simply into the ureter. The solution must be warm and should be injected slowly so as not to cause renal colic prematurely. If the fluid is strongly tinged with methylene blue, the mouth of the ureter may be obscured through the cystoscope during the process of injection so as to make sure that too much of the solution does not escape around the catheter, which, however, is seldom the case. In injecting the solution, a syringe may be used with a metal plunger to facilitate sterilization, and with a small pointed tip that will fit accurately into the ureteral catheter. It should be of considerable capacity and graduated in cubic centimeters.

55. **Premature Menopause.**—Stark collected 59 cases in which the menopause set in from the ages of 17 to 30. Eleven of these cases were observed by Stark himself.

59. **Noma.**—Porter reports a case of noma that recovered without perforation. The patient, a girl of 15, was kept in bed with the windows wide open, and during the day she was kept on the porch. She was given a liberal diet and in addition to the regular meals she was given a glass of milk, with an egg and two drams of rum, three times daily. She was also given the juice of three lemons daily. Every three hours the mouth was washed with peroxid of hydrogen. Four injections of *B. fusiformis* were given. The ulcer extended until it reached the corner of the mouth, but in no other direction was there any extension of the nomatous process after she entered the hospital. Shreds of necrosed tissue were washed away or gently removed by the forceps daily. Forty-two days after the onset of the disease the girl was discharged with the ulcer entirely clean of necrosed tissue and rapidly healing.

62. **Treatment of Abortion.**—Particular attention is called by Stowe to the following points in the treatment of abortion: 1. The importance of treating all cases of uterine hemorrhage accompanied by intermittent pelvic pain in a woman of child-bearing age as acute abortion. 2. The value of absolute rest in bed in the treatment of threatened abortion until all pain and bleeding have ceased. 3. The necessity of saving as much blood as possible to avoid a long period of anemia and prostration. 4. The selection of cotton pledgets in lieu of gauze strips as material for vaginal tamponage. 5. The use of finger curettement and manual removal of uterine contents whenever possible. 6. The performance of Hoening's abdomino-vaginal compression when the conditions are present. 7. The difficulty of complete sterilization of laminaria tents. 8. The danger of perforation of the uterus with steel dilators and sounds. 9. The great danger of uterine perforation with the steel curette in acute abortion, and the value of the instrument in chronic abortion. 10. Curettement should be raised to the dignity and seriousness of a surgical operation and be performed under the same surroundings and with necessary equipment. 11. The importance of refraining from curetting after the complete emptying of the uterus. 12. The use of ergot after the uterus is empty. 13. Local interference in septic abortion when the infection is limited to the uterine cavity. Less tendency to interfere when the adnexa or peritoneum are involved in the septic process.

## Journal of Advanced Therapeutics, New York

*January*

67 Treatment of Arteriosclerosis, or General Arterial Fibrosis with the D'Arsonval Current. J. C. Walton, Richmond, Va.
68 Treatment of Tuberculous Glands of the Neck by Roentgen Rays. F. A. Davis, Boston.
69 Radium Therapy in Inoperable Tumors. W. H. Dieffenbach, New York.

### Dominion Medical Monthly, Toronto

*January*

70 What is Certified Milk? How it may be Obtained for Patients. H. T. Machell, Toronto.
71 Severe Tetanus; Recovery. A. Bell, Toronto.
72 *New Treatment for Abdominal Surgical Shock. J. R. Hopkins, Denver, Colo.

72. **Treatment for Abdominal Surgical Shock.**—The treatment advocated by Hopkins is said to be especially suitable for shock during the few hours or days following an abdominal operation, when the patient is not under an anesthetic, although it is probably beneficial when the patient is anesthetized, but not to so great a degree. It is described as follows: Take out two skin sutures as near the umbilicus as the wound will permit, then pry apart the continuous sutures in the fascia and peritoneum. One can then see if hemorrhage is present. This procedure is not difficult or very painful, because when patients are in shock they are more or less insensible to the causes of ordinary pain. Have ready very hot and cold normal salt solution; the reservoir should be equipped with four feet of rubber tubing, together with a glass tube or cannula six to eight inches long. Both rubber and glass tubes should have a diameter of from 1/3 to 1/2 inch. Place a quart of saline solution at 112 F. in a reservoir hung three feet higher than the abdomen. Have the wound held open; see that the tube and the cannula are full of the hot solution, then insert the long cannula beneath the omentum, if possible, pushing it upward so that the glass tube penetrates to the posterior peritoneum up behind the transverse mesocolon to the neighborhood of the posterior wall of the stomach, getting as near to the solar plexus as possible. The solution still at 112 F., is allowed to run in as rapidly as it will. Probably a pint will fill the abdomen and be enough.

The irritation of the splanchnic nerves and sympathetic ganglia produced by the heat and pressure at once cause contraction of the intestinal arteries, veins and portal vein, and thus a marked rise in blood pressure. Really a shock is produced by the sudden pressure of this hot solution on this great and important part of the vasomotor nerve mechanism, but this shock is a sudden reversal of the phenomena of surgical shock. The radial pulse returns or its pressure is markedly increased. The glass tube is taken out quickly; a small piece of gauze is laid over the wound, and a strip of adhesive plaster applied, then a tight abdominal binder to sustain the pressure. If this treatment should not succeed, Hopkins strongly advises repeating it in one or two hours. In addition to the above treatment he also advises hot salt solution by rectum, ten ounces every two hours, principally on account of getting the heat near the hypogastric plexus and splanchnic nerves, also full glasses of hot water to drink for similar purposes; otherwise the patient should not be disturbed with hypodermics or even by raising the foot of the bed, but should just be kept warm and as comfortable and peaceful as possible.

### Vermont Medical Monthly, Burlington

*January*

73 Recent Advances in our Knowledge of the Blood. R. C. Cabot, Boston.
74 Venereal Disease in Vermont. W. W. Townsend, Rutland.
75 Care of the Child in the Puerperium. G. S. Clark, Montgomery.
76 Features of Infantile Paralysis. J. H. Bainton, New York.

### Yale Medical Journal, New Haven

*January*

77 Alcohol as a Food. M. M. Scarbrough, New Haven.
78 Alcohol as a Poison. T. D. Crothers, Hartford, Conn.
79 *Therapeutic Use of Alcohol. O. T. Osborne, New Haven.
80 *Extrauterine Pregnancy. P. H. Ingalls, Hartford, Conn.
81 *Importance of More Careful Surgical Diagnosis and the Aid Afforded by Various Tests. H. F. Brownlee, Danbury.
82 *Heredity and Crime: A Study in Eugenics. W. H. Carmalt, New Haven.

79. **Therapeutic Use of Alcohol.**—In Osborne's opinion, the positive value and advantages of the proper use of alcohol as a drug in acute disease when the condition indicates the necessity for physiologic action similar to its activity, cannot be gainsaid. But, he says, alcohol should not be used because a patient is ill or has a fever, though frequently nothing in the drug line, in his opinion, will take the place of alcohol in medicine. He believes that a dose larger than from one to three teaspoonfuls, once in three hours, is probably never indicated, and if given should certainly not soon be repeated. As a food alcohol may save the burning of some tissue during the acute fever when the nutriment is not sufficient, or is not metabolized sufficiently, to save fat and muscle. Hence, in fevers it has a distinct food value, but probably no better than that which would be obtained from sugar. In continued cardiac failure or depression, whether in patients suffering from chronic disease or in patients with acute disease, alcohol is contraindicated, strychnin being generally the best medicinal treatment. Consequently, strychnin should not be begun early in acute disease, but should be reserved until it is needed and becomes a life saver. As a nutriment in chronic diseases alcohol is uneconomical and generally a positive disadvantage to the system.

As a vasodilator in chronic high arterial tension it should ordinarily not be used. This indication for treatment is present in arteriosclerosis and gout, and is a *symptom and sign* in late middle life of old age. If arteriosclerosis is present and the patient is well along in life, and is accustomed, and has been accustomed, to take alcohol regularly in doses that do not intoxicate, it may be unwise to stop the vasodilating effects of the alcohol, until it has been ascertained that some other treatment will be as conducive to well-being. In other words, the physiologic relief from high tension which the patient has been accustomed to acquire by taking alcohol cannot be stopped abruptly without due consideration of the consequences of withdrawing the drug. Alcohol has been largely used and frequently ordered, and the laity often resort to it to abort acute colds. Hot baths, combined with hot lemonade, or hot tea, or other hot non-alcoholic liquids, or a dose or two of a coal-tar sweat-producing drug, or a Dover's powder, and the quickly acting saline cathartics, will accomplish as much in aborting colds as will alcohol, and therefore it is rarely necessary to resort to alcohol in such a condition.

80, 81, 82. Abstracted in The Journal, June 26, 1909, p. 2126.

### Ophthalmic Record, Chicago

*January*

83 Retinitis Proliferans with Pigmentation, Following Hemorrhage from Bowel. E. C. Ellett, Memphis, Tenn.
84 Intradural Glioma of the Optic Nerve, Macroscopic and Microscopic Findings. A. A. Foucher, Montreal.
85 Total Ophthalmoplegia (Hysterical) Cured by Psychotherapy. A. G. Bennett, Buffalo, N. Y.
86 Rupture of Sclerotic, with Subconjunctival Dislocation of the Crystalline Lens. G. F. Keiper, Lafayette, Ind.
87 Melanotic Sarcoma of the Orbit. J. B. Haden, Galveston, Tex.
88 Varix or an Angioma Venosum of Orbit Cured by Alcohol Injections. J. F. Klinedinst, York, Pa.
89 Monocular Hemianopsia Due to Ethmosphenoidal Disease. F. Krauss, Philadelphia.

### American Journal of Urology, New York

*January*

90 *Large Iodoform-Gauze Tampon in Bladder for Nearly Ten Months. V. G. Vecki, San Francisco.
91 Why is Faradic Treatment Superior to Massage in Prostatitis? M. Porosz, Budapest, Hungary.
92 Urethral Calculi. J. R. Hayden, New York.
93 Obstructive Calculous Anuria. F. S. Watson, Boston.

90. **Iodoform-Gauze Tampon in Bladder.**—A man, 67 years old, had for 8 years more or less difficulty in emptying his bladder. In December, 1908, he submitted to prostatectomy. The operation was performed successfully, but while the patient did not die, his real pains and suffering began from that time. The urine became fetid, escaping through a suprapubic fistula, the bladder became absolutely intolerant and had to be emptied every hour day and night, and the pain at the end of micturition was "terrible." This history spoke for a stone in the bladder. The cystoscope showed a foreign body in the bladder that looked like the head of a brain coral. The beak of the cystoscope, when entering, gave the characteristic stone-sound, but when touching the surface of the coral-head-like formation, gave no sound and no feeling of resistance. Suprapubic cystotomy was performed. It was at once clear that the foreign body, soft at its upper surface, and stone-hard at its lower one, was a piece of gauze left over from the former operation. This was extracted. The patient made an uneventful recovery. The tampon had been in the bladder for ten months.

### Medical Herald, St. Joseph, Mo.

*December*

94 *Diagnost [illegible] Points in the Management of Renal [illegible] ssl, Chicago.
95 Inguinal [illegible], St. Joseph.

*January*

96 *Diagnosis and Treatment of Gastric Ulcer with Special Reference to the Lenhartz Diet. L. Crummer, Omaha, Neb.
97 Tuberculosis of the Fallopian Tubes. E. Lanphear, St. Louis.
98 Mlle. Christine: An Anatomic Curiosity. S. G. Burnett, Kansas City, Mo.
99 Internal Secretion as the Autoimmunizing Agent of the Body. J. F. Owens, St. Joseph.
100 Prevention of Venereal Disease. T. M. Paul, St. Joseph.

94. **Renal Tuberculosis.**—Kreissl discusses some diagnostic and therapeutic points in the management of renal tuberculosis.

96. Abstracted in THE JOURNAL, Sept. 25, 1909, p. 1048.

### Atlanta Journal-Record of Medicine

*January*

101 The Legitimate Practitioner and the Quack. J. R. Simpson, Atlanta, Ga.
102 Surgical Shock. J. G. Earnest, Atlanta.
103 Fracture of the Skull. S. B. Little, Colbert, Ga.
104 Treatment of Delirium Tremens. G. E. Pettey, Memphis, Tenn.
105 Complicated Fracture. J. H. Miller, Cross Hill, S. C.
106 Anesthesia. W. W. Jarrell, Thomasville, Ga.
107 Fractures of Patella and their Modern Operative Treatment (continued). A. P. Heineck, Chicago.
108 *Prophylaxis of Pellagra. C. H. Lavinder, U. S. P. H. and M.-H. S.

108. Abstracted in THE JOURNAL, Nov. 20, 1909, p. 1770. The article was also published in the *Southern Medical Journal*, November, 1909.

### American Journal of Surgery, Philadelphia

*January*

109 Fractures. J. E. Blake, Brooklyn.
110 *Use of the Photoscope for Demonstrating Operations to a Large Number of Visitors. C. H. Duncan, New York.
111 Acute Dilatation of the Stomach. S. R. Hopkins, Omaha, Neb.
112 Results of the Use of Bismuth Paste in Tuberculous Sinuses at the Sea Breeze Hospital. L. W. Ely, New York.
113 Roentgen-Ray Diagnosis of the More Common Injuries and Diseases About the Hip-Joint. C. Eastmond, Brooklyn.
114 Surgical Treatment of Goiter. J. E. Cannaday, Charleston, W. Va.
115 Intestinal Obstruction with Gangrene of Meckel's Diverticulum, Due to Twisting. E. A. Parker, Brooklyn.

110. Another article on this subject, by the same author, appeared in THE JOURNAL, Feb. 12, 1910, p. 534.

### Journal of the Tennessee State Medical Association, Nashville

*January*

116 Ocular Complications of Nephritis. H. Wood, Nashville.
117 General Considerations in the Surgery of the Mastoid. R. M'Kinny, Memphis.
118 Melancholia. H. Padgett, Nashville.
119 Therapeutic Suggestion. J. W. Stephens, Nashville.
120 Bacteriology of Typhoid. W. Litterer, Nashville.

### Annals of Ophthalmology, St. Louis

*January*

121 Physiology of Pupillary Movements. C. Lafon.
122 Transferred Ophthalmitis. C. A. Oliver, *Philadelphia*.
123 Visual Requirements of Transportation Employees. N. M. Black, Milwaukee.
124 Relief of Glaucoma through Subconjunctival Injections of Sodium Citrate. H. G. Thomas and M. H. Fischer, Oakland, Cal.
125 Do Diseases of the Accessory Sinuses Cause Keratitis Parenchymatosa? E. J. Bernstein, Kalamazoo, Mich.
126 Parinaud's Conjunctivitis with Unusual Complications. F. Krauss, Philadelphia, and M. P. Boyle, Glenside, Pa.
127 Modified Knapp Roller for Expression in Trachoma. W. N. Whitney, Tokio, Japan.

### Southern California Practitioner, Los Angeles

*January*

128 Gonorrhea in Young Women: Research Work and Conclusions in Vaccine Therapy. J. C. Hollister, San Diego.
129 Typhoid Carriers. I. R. Bancroft, Los Angeles.
130 Acute Anterior Poliomyelitis. A. J. Rosenberry, Jerome, Ariz.
131 Prevention of Communicable Diseases. J. I. Clark, Santa Ana, Cal.
132 Digitalis. W. I. Linn, Prescott, Ariz.
133 *Retroperitoneal Hemorrhage—An Unusual Case. H. H. Lissner, Los Angeles.
134 Does the Correction of Physical Defects of Juvenile Criminals Improve their Moral Conduct? J. A. Colliver, Los Angeles.

133. **Retroperitoneal Hemorrhage.**—After eating three-fourths of a pound of raisins a man aged 30, was awakened by severe cramps in the abdomen, at 3 a. m., with which he suffered during the remainder of the night. On the morning of the same day Lissner saw him and his condition was as follows: Temperature normal, pulse 72, cramps in abdomen. Pain not localized, but generally distributed, constant, with occasional exacerbations; pressure with both hands over the abdomen relieved pain somewhat. Tympany present all over abdomen, obliterating liver dulness; no palpable tumor; no localized tenderness over McBurney's point; slight rigidity over abdominal muscles, below umbilicus, more on left than on right side; bowels constipated. Hot water bag was ordered applied to abdomen and calomel and salts were given; the patient obtained relief from acute pains and was comfortable after having had several copious bowel movements.

Although he had more or less dull pain in the abdomen, the man continued uninterruptedly at his work, that of a solicitor, for a week, when he returned for examination. There was marked rigidity over lower abdomen, much greater on left than on right side. Palpation over left iliac fossa revealed a mass of some kind. It was dome-shaped and extended from one inch below umbilicus, and to left of median line toward pubes and iliac fossæ. All the rest of abdominal surface was decidedly tympanitic. Bowels were constipated. Two days later, pain during the night was very severe. No nausea or vomiting occurred at any time during the illness. Patient was sent to hospital in the morning. On the evening of the same day temperature was 101 F., pulse 120, and patient's expression was anxious. Pain became more paroxysmal in character, and was localized to region two inches in diameter with umbilicus as center.

A median incision was made and immediately on opening the peritoneum pure blood from the abdominal cavity presented at the wound. Beneath the intestines and mesentery on each side of the vertebral column, a tumor mass presented, which was doughy to the touch, did not fluctuate, and was retroperitoneal. It proved to be organized blood clot; one clot on each side of spinal column connected by a lamina of fibrin. Each clot was about the size of a fetal head. After removing these clots and the other less organized blood, two bleeding points presented, one, an artery, small in caliber, the other seemed to be more of an oozing. The location of the vessel or origin of the hemorrhage was not identified because the condition of the patient did not warrant any further proceedings or manipulation. The vessel was tied and the oozing controlled by hot packs soaked in adrenalin solution. At the end of two weeks the patient was allowed to return to his home and was instructed to remain in bed. Liquid diet was prescribed. On the Saturday following his return home the patient arose and walked about the house, and feeling hungry ate liberally of beefsteak and German fried potatoes. He was again attacked by violent pains in the abdomen and he went into a condition of shock rapidly. Autopsy disclosed a retroperitoneal adenocarcinoma.

### St. Louis Medical Review

*January*

135 *Specific Treatment of Tuberculosis. G. C. Crandall, St. Louis.
136 Pertinent Facts About Tuberculosis. O. H. Brown, Mt. Vernon, Mo.
137 Problem of Uterine Cancer. G. Gellhorn, St. Louis.
138 Malignant Tumors of the Eye. A. Alt, St. Louis.

135. **Specific Treatment of Tuberculosis.**—Crandall reports 21 patients now on tuberculin treatment, as follows: Twelve pulmonary tuberculosis, 2 tuberculous adenitis, one of whom had tuberculous conjunctivitis, 2 tuberculous knee, 2 tuberculous spine, 2 tuberculous rectal fistula, 1 tuberculous elbow, 1 tuberculous kidney. All are improving very satisfactorily except three patients with advanced pulmonary tuberculosis, and in two of these the disease appears noticeably retarded. Crandall believes that tuberculin, if properly given, exerts a beneficial effect in the majority of cases, materially aiding in making some active processes latent, and, in some of the less favorable ones, retarding the progress of the disease. Patients who have not responded favorably to general treatment, or in whom the condition has remained stationary, appear to be given an impetus toward recovery; and they also seem to be safeguarded in a measure against the untoward effects of intercurrent diseases or other physically depressing influences. In the main, Crandall is using human O. T. B. E. and B. F., regardless of the type of infection. But he is beginning to use with some cases either the human or bovine tuberculins, according to which type of infection the tuberculin test indicates.

### Northwest Medicine, Seattle

*January*

139 Conservatism in Surgery. H. B. Luhn, Spokane, Wash.
140 Incidence of Echinococcus Disease in British Columbia. R. E. McKechnie, Vancouver, B. C.
141 Nephritis and its Comparative Frequency over the Pacific Northwest. E. P. Pickel, Medford, Ore.
142 Newer Conceptions Regarding the Action of the More Important Diuretics. J. R. Brown, Tacoma, Wash.
143 The Much Abused Nose. A. M. MacWhinnie, Seattle, Wash.

### Old Dominion Journal of Medicine and Surgery, Richmond

*January*

144 Surgery of the Kidney; Fifteen Cases of Nephrectomy. F. Martin, Baltimore.
145 Pyloroplasty. H. H. Trout, Roanoke, Va.
146 Casts—Their Origin and Significance. G. Baughman, Richmond.

### American Journal of Physiology, Boston

*February*

147 *Physiology of Lymph: Comparative Electrical Conductivity of Lymph and Serum of the Same Animal, and Its Bearing on the Theories of Lymph Formation. A. B. Luckhart, Chicago.
148 Physiology of Lymph: Fractional Coagulation of Lymph. H. O. Lussky, Chicago.
149 Regeneration of Nerve and Muscle in the Small Intestine. W. J. Meek, Madison, Wis.
150 *Acapnia and Shock: Failure of Respiration After Intense Pain. Y. Henderson, New Haven, Conn.

147. **Physiology of Lymph.**—Luckhardt starting from the results of the work of Carlson, Greer and Luckhardt, which showed that the lymph contained more chlorids than the serums, attempted to confirm these findings by determining the electric conductivity of the lymph. He reaches the following conclusions:

> 1. The work of Bottazzi and that of the present paper confirm the work of Hamburger, Carlson, Greer, and Luckhardt on the excess of chlorids in the lymph by showing that lymph is a better electric conductor than the serum.
> 2. The protein, egg-albumin, depresses the conductivity of an electrolyte. Since the serum is more concentrated in proteins than the lymph, the greater conductivity of the latter might possibly be explained on the basis of its smaller protein content. It was, however, shown that the depression of 0.9 per cent. sodium chlorid solution by egg-albumin even when in high concentration is slight and inadequate to explain the great difference in conductivity found between lymph and serum.
> 3. The fat droplets contained in chylous thoracic lymph depress the conductivity of this lymph by physically offering a resistance to the passage of the ions.
> 4. A 10 per cent. increase in the sodium chlorid content of a physiologic saline solution causes an increase in the electrical conductivity of the solution which is comparable to the increased conductivity of the lymph over the serum.
> 5. Why there is an excess of chlorids in the lymph and how this condition is brought about awaits an explanation. Hamburger's suggestion that the lymph gives up its carbon dioxid ions which it has received from the tissue cells to the blood in exchange for twice the amount of chlorin ions is in harmony with the facts that the lymph contains more salts and is a better electrical conductor than the serum, and that the per cent. and tension of carbon dioxid are less in the lymph than in the venous blood.
> 6. The excess of chlorids in the lymph, together with the greater conductivity of the latter, appears to be incompatibile with a purely mechanical theory of lymph formation.

150. **Acapnia and Shock.**—Henderson has shown in previous articles that rapid respiration with ensuing ventilation of the lungs and removal of carbon dioxid is productive of shock. The rapid respiration or hyperpnea if continued sufficiently long is followed by apnea which may be fatal. In the present article he endeavors to show by experiment and clinical observation that a similar hyperpnea is produced by irritation of the sensory nerves and is the cause of shock, resulting from severe pain. In the animal experiments consciousness was abolished by the use of ether and morphin so that the term pain used in describing the experiments refers to the irritation of the sensory nerves and not to the conscious feeling of pain. The results show that the effects of pain are not due to the consciousness of suffering but to the nerve irritation. It appears, therefore, that the consciousness of suffering is a mere accompaniment and not a causal element in the development of shock. Henderson reports a case of hyperpnea in a man who sprained his ankle and also quotes a report of fatal apnea in a man injured by the laceration of the left hand and left chest wall over the heart by the explosion of a giant fire cracker. The death of this man was similar in nearly every detail to the fatal apnea vera of the experiments. He concludes as follows:

> The hyperpnea induced in intense afferent irritations involves excessive pulmonary ventilation. The condition of acapnia which results is identical with that produced by forced breathing in men, and by excessive artificial respiration in animals.
>
> When the quantity of carbon dioxid in the blood has been reduced below the threshold of the respiratory center and the irritation is considerably diminished, apnea vera occurs. If the acapnia is intense, apnea may continue until death results from oxygen starvation of the heart. The fatal process usually occupies eight minutes, but if the arterial blood stream is greatly diminished it may occur in less than two minutes.
>
> During the anoxemia of prolonged apnea, asphyxial acidosis develops. If the acapnia is not intense, these products of incomplete tissue combustion induce isolated gasps followed by Cheyne-Stokes breathing, and prevent immediate death.
>
> After intense bodily suffering failure of respiration is the usual form of death. It is only when the pain is sufficiently continuous to prevent apnea that the slower process of failure of the circulation develops.
>
> The administration of carbon dioxid gas in proper dilution, during apnea after pain hyperpnea restores spontaneous breathing. The administration of oxygen prolongs apnea, but cures the fundamental abnormal conditions—acidosis and acapnia.
>
> Because of the influence of ether as a respiratory stimulant moderate ether anesthesia tends to prevent apnea (in dogs) unless neutralized by morphin.

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## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### Lancet, London

*January 29*

1 Chronic Mastitis and its Relation to Carcinoma. C. B. Lockwood.
2 Tuberculous Diseases of the Skin and their Treatment. J. L. Bunch.
3 *Pontine Tumor Producing Dissociated Hemianesthesia. W. P. Herringham and C. M. H. Howell.
4 Acute Primary Phlegmonous Gastritis. J. E. Adams.
5 Acute Dermatitis Due to Bichromate of Potassium. R. P. White.
6 Spinal Meningocele: Operation when 40 Hours Old: Recovery. R. L. Ley.
7 The Circulatory System (continued). H. Campbell.

3. **Pontine Tumor Producing Dissociated Hemianesthesia.**—The authors assert that theirs is the only case reported in which hemianalgesia and hemithermo-anesthesia were produced by a tumor, while the sense of touch was preserved (dissociated hemianesthesia), and it carries the localization of the track of sensations of pain and of heat higher up the central nervous system than has yet been reached.

A man, aged 36, had had a sore on the penis seven months previously, but no secondary symptoms. He was treated by iodid of potassium and mercury, pushed to salivation, but fruitlessly. One year ago he was treated for neuralgia. Six months ago he began to attend in the out-patient department for left facial paralysis. He then swayed when standing and had unequal pupils and diplopia. While in the ward he had: (1) Persistent occipital headache; (2) repeated vomiting; and (3) the following localizing symptoms:

Tactile sensation was preserved everywhere, except on the left side of the face and on the mucous membranes of the mouth and nose. The superficial sensation of pain (pin-prick) was entirely lost over the whole of the right half of the body from the crown of the head to the sole of the foot, with the exception of the penis and scrotum and a small area around the anus. Here pin-prick was felt naturally. A small area round each of these parts showed relative analgesia. The deep sensation of pain was apparently also lost on the same side, for pressure which produced pain on the left half of the body and on the left limbs produced no pain on the right. The vibrations of a tuning fork were either not felt at all on the right side, as at the knee and on the crest of the ilium, or were felt less or for a shorter time than on the left side. The sensation of heat was completely lost, and that of cold was only recognized as producing a stinging pain over the whole of the right side, with the exception that on the scrotum and penis the extremes of heat and cold were distinguished as hot and cold. The sense of position of the limbs was natural.

The sensory condition of the face and mouth was peculiar. It was explained by a second tumor which had not been suspected during life. Tactile sensation was lost over the left face and cheek from the eyebrow to below the mouth, and was weak over the forehead, temple and lower jaw. The sense of pain and the thermal sense were preserved over these areas. The mucous membranes of the nose, cheek, palate, tongue and lips were anesthetic on the left side, but not on the right, to the touch of cotton-wool. Of the mucous membrane of the cheeks and lips the left side was analgesic, though the skin on the left cheek felt pain, while the right side felt pain, though the skin of the right cheek did not. There was anesthesia to cold on the dorsum and on the under surface of the left half of the tongue, but anesthesia to heat was complete over the whole dorsum and partial over the whole of the under surface. Cold was felt inside both cheeks, and on both lips, but heat was not felt inside either cheek and was delayed on the lips.

Equilibrium was lost. The patient swayed greatly when standing or walking. There was weakness of the left sixth nerve and diplopia was produced by looking to the left. There was nystagmus in every direction, except downward. The right pupil was always larger than the left, but each pupil reacted naturally to light and to accommodation. There was some weakness of the left external pterygoid, none of the masseter. There was slight weakness of the facial muscles on the left side of the mouth. The eyes closed naturally and the frontalis muscle also acted naturally. The tongue was protruded straight; swallowing and speech were natural; the palate and the vocal cords moved equally and well. There was no muscular wasting. The power of the right arm and leg was equal to that of the left, and when lying in bed, coordination was natural on both sides. The right knee-jerk was the greater; there were ankle clonus and extensor response of the great toes on the right side.

Vision was natural with each eye separately. The fields were not contracted. The optic discs were examined several times and found natural. Hearing was bad. A watch was not heard beyond eight inches from the right ear and four from the left. But in this ear the membranes were normal and bone conduction was unimpaired. Taste was lost over the left half of the tongue.

When the brain was removed post-mortem, a rounded growth was seen occupying the position of the sella turcica, but not infiltrating the brain in any way, though its posterior part was to some extent compressing the ventral aspect of the pons. A second tumor, partly solid and partly cystic, was also observed, apparently embedded in the left lateral aspect of the pons.

## British Medical Journal, London

*January 29*

8 *Appendix Dyspepsia. B. G. A. Moynihan.
9 *When to Operate for [illegible] Rowlands.
10 *Treatment of Gastric [illegible]
11 *Analysis of a Series [illegible] Gastric and Duodenal Ulcers. J. Morton.
12 *Diagnosis and Treatment of a Common Form of Dyspepsia and of Early Tuberculous Infection in Children. A. Dingwall-Fordyce.
13 Dried Milk as a Food for Infants. C. K. Millard.
14 Therapeutic Value of Carbon-Dioxid Snow in Treatment of Vascular Nevi, Moles, etc. J. M. H. MacLeod.
15 Results Obtained from Local Application of Solid Carbon Dioxid. E. R. Morton.
16 Clinical Estimation of "Acidosis." A. E. Barnes.

8. **Appendix Dyspepsia.**—During the last few years Moynihan says that he has been brought by degrees to recognize that in many of the intractable cases of indigestion, in which a lesion of the stomach, duodenum or gall-bladder might not unreasonably have been supposed to exist, no structural alteration could therein be found. On further investigation an appendix obviously diseased was discovered, and its removal was quickly followed by a complete relief of all former disabilities. Moynihan concludes that the symptoms of both gastric and duodenal ulcer, especially the former, may be exhibited with great fidelity in cases in which no structural lesion can be found in these parts. In many of the cases of "gastric ulcer" in which the symptoms pain, vomiting, hematemesis are present, and in many cases of intractable dyspepsia of a capricious kind, the only pathologic change discovered during operation is a chronic inflammation of the appendix. Removal of the inflamed and obstructed appendix is generally followed by a complete and instant relief of all former dyspepsia. The cessation of symptoms may, however, come only by degrees and with the lapse of many weeks.

Moynihan emphasizes the fact that no operation for supposed gastric or duodenal ulcer is complete until an examination has been made of the appendix, small intestine and mesenteric glands (that is of the midgut). If in such an operation no lesion can be found in the stomach or duodenum, it is not permissible to perform any operation such as gastroenterostomy. This operation yields results not surpassed by any other when performed in strictly appropriate cases. It is worse than useless in chronic appendicitis.

Moynihan believes that the mimicry of the symptoms of gastric ulcer in these cases is due to an exaggerated action of the pylorus. This tumult of contractile activity can be recognized when the stomach is inspected. Investigation is necessary to ascertain the frequency with which the mucous erosion of the stomach (the "acute" or "medical" ulcer) is dependent on a primary lesion in the appendix or intestine.

9. **When to Operate for Appendicitis.**—Rowlands says that it is wise to remove the appendix in the quiescent period after one definite attack of appendicitis. The best treatment of acute appendicitis in his opinion is an operation at the earliest possible moment, if a good surgeon is available.

10. **Treatment of Gastric Ulcer.**—Craig employs the Lenhartz treatment in gastric ulcer.

11. **Perforated Gastric and Duodenal Ulcer.**—Morton's cases bear out the generally accepted view that duodenal ulcer is more common in men, and gastric ulcer in women. All the duodenal cases, 4 in number, occurred in males, while of the 7 gastric cases, 6 occurred in females. One of the latter was really a malignant tumor of the pylorus, which gave way suddenly while the patient was in the hospital, with the usual sudden acute symptoms of a perforating lesion; while another was a perforated "peptic ulcer" at the line of junction between stomach and jejunum, in a patient on whom a gastroenterostomy had been performed four months previously. The ages of the patients varied from 21 to 65 years, the average being 39 years. The site of the ulcer in all but 2 cases—that is, in 82 per cent. of the whole—was close to the pylorus, and in the whole series was situated on the anterior wall of the organ.

The ulcer presented in most of the cases a more or less definite punched-out appearance, with characteristic hard edges, and varied in size from a very tiny opening to one-fourth inch or more in diameter. Excluding, for obvious reasons, the malignant case referred to, 10 patients were operated on, of whom 7 recovered, and 3 died—a mortality of 30 per cent.

12. **Early Tuberculosis Infection in Children.**—Dingwall-Fordyce's impressions as regards the administration of tuberculin in obviously glandular infections—mainly abdominal or cervical glands—or in cases which by the previous methods of diagnosis are: 1. That this treatment is very unsafe when large doses are employed or when the temperature is unsteady. 2. It is safe in minute doses, when commenced with a practically normal temperature and when the patient is kept under observation. 3. In many cases tuberculin treatment appears to have no definite effect on the condition one way or another. 4. In cases in which treatment by rest, climate, feeding, and careful nursing can be employed, improvement by these means alone is usually so marked that it is impossible to attribute to tuberculin, when given in these cases, its due meed of praise or to judge whether it takes any part whatever in the improvement. 5. However, when treatment by rest, climate, feeding and careful nursing cannot properly be adopted, tuberculin is often of marked value. These are the patients who otherwise do badly, and tuberculin treatment is with them of the greatest importance. 6. T. R. is, as a rule, preferable to P. T. R. 7. For routine use the method of hypodermic injection is superior to that of oral administration; the effect of giving tuberculin by the mouth varies very much. These impressions are derived from the treatment of about 100 cases during the past three years.

## Clinical Journal, London

*January 19*

17 Intestinal Stasis. W. A. Lane.
18 Cases Illustrating Mutism. J. A. Ormerod.
19 Examination of Bodies Found in the River. F. G. Crookshank.
20 Cholecystduodenostomy for Acute Emaciation Following Formation of a Biliary Fistula. J. D. Malcolm.

*January 26*

21 Acute Poliomyelitis. W. P. Herringham.
22 Paralysis in Children in Some of Its Clinical Aspects. G. Rankin.

### Medical Press and Circular, London

*January 26*

23 *Common Acne: Its Cause, Symptoms and Treatment. D. Walsh.
24 *Pelvic Hematoma of Ovarian Origin. C. Lockyer.
25 *Pseudoflexion of Uterus as Sign of Pregnancy at the First Month. S. Stritch.
26 Facial Spasm and Tic Torticollis: Diagnosis and Treatment. T. A. Williams.

23. **Acne.**—Speaking of vaccine therapy in acne, Walsh says that the use of a polyvalent vaccine (prepared from cultures of *Staphylococcus albus, citreus* and *aureus*) answers well enough in most cases, especially when there is much pustulation. When the chief feature is the comedone, an acne bacillus vaccine is indicated. A mixed vaccine of 200,000,000 polyvalent staphylococci and 8,000,000 acne bacilli is what he has used in recent cases. The dose must be gradually increased to the maximum with about ten days' interval, and the effects very carefully watched. He has found the treatment to yield brilliant results in some cases, while in others the condition recurs shortly afterward, or shows no appreciable improvement.

24. **Pelvic Hematoma of Ovarian Origin.**—Lockyer cites the cases of two patients operated on for supposed acute appendicitis, but in which the lesions proved to be pelvic hematoceles in which there was no evidence of pregnancy. In both instances the Fallopian tubes were intact and not damaged; in both an ovarian blood cyst had ruptured and was the cause of the internal bleeding. In a third case, after the left tube had been removed for ruptured ectopic gestation, a pelvic hematocele formed on the right side, due to ovarian bleeding. In this case and in one of the other two cases, Lockyer sought by microscopic investigation to find proof of ovarian gestation, but failed.

25. **Pseudoflexion of the Uterus as Sign of Pregnancy.**—In trying to determine the existence of pregnancy, Stritch made bimanual examinations, and felt a relationship of the parts suggestive of an anteflexion of the uterus. At first Stritch thought that the anteflexion was artificially produced by the pressure used in approximating the hands. By removing the outside hand and only examining with the internal finger he discovered that such was not the case, inasmuch as the condition remained unaltered. He then assumed, for the sake of argument, that the uterus is, as it were, abnormally anteflexed at the first month of pregnancy.

### Journal of Tropical Medicine and Hygiene, London

*January 15*

27 Porocephaliasis in Man. L. W. Sambon.
28 Peculiar Fracture of the Radius. A. G. H. Smart.

### Annales de Gynécologie et d'Obstétrique, Paris

*January, XXXVII, No. 1, pp. 1-64*

29 *Lactosuria during Pregnancy. (Recherches sur la lactosurie pendant la grossesse.) E. Gérard and M. Oui.
30 *Diagnostic Importance of Differences in Temperature in the Legs in Phlegmasia Alba Dolens. (Différence de température des membres inférieurs dans la phlegmatia alba dolens.) M. Delestre.
31 *Metastatic Oöphorosalpingitis. (Les oophoro-salpingites *métastatiques.*) J. Okinczyc.

29. **Lactosuria in Pregnant Women.**—Gérard found evidence of lactosuria in only 5 out of 41 pregnant women approaching term. When found it proved transient in all but one case. This woman had from 4 to 11 gm. lactose to the liter of urine and she was suffering from distressing general pruritus. The latter subsided on an exclusive milk diet, but she was unable to nurse her child.

30. **Difference in Temperature of the Legs with Phlegmasia Alba Dolens.**—Delestre reports nine cases of phlegmasia alba dolens which show that the temperature of the diseased leg is much higher than that of its sound mate; the difference may be from 1 to 4 degrees Centigrade. This difference is evident, and reaches its maximum during the first days of the affection. By the end of five or six weeks the difference subsides, but the curves afford no information as to when the women can be allowed to get up. In five other cases, painful varices with fever suggested phlegmasia alba dolens at first, but the lack of difference between the temperature of the legs failed to confirm this diagnosis, as also the course of the cases. He states that there is always liable to be a difference in temperature between the two legs, even in health, but it never surpasses 1 degree C. in health (1.8 degree F.). In one case the symptoms of the phlegmasia were so slight that the diagnosis was uncertain until the difference in the temperature of the legs confirmed its existence.

31. **Metastatic Inflammation in the Adnexa.**—Okinczyc discusses the oophorosalpingitis observed with scarlet fever, measles, smallpox, mumps, tonsillitis, typhoid, pneumonia, influenza and other infections, as also those with syphilis and helminths, reviewing 127 communications in the literature. In mumps and tonsillitis the ovaritis subsides under repose and ordinary measures, but when of other origin operative treatment is generally necessary.

### Annales de Médecine et Chirurgie Infantiles, Paris

*January 1, XIV, No. 1, pp. 1-36*

32 The Blood in Inherited Syphilis and its Modification under Mercurial Treatment. (Hématologie et syphilis héréditaire.) G. Sisto.

### Archives de Médecine des Enfants, Paris

*January, XIII, No. 1, pp. 1-80*

33 *Measles plus Scarlet Fever in Children. (Infection double par rougeole et scarlatine chez les enfants.) Brudzinski.
34 *Advantages and Disadvantages of Trip to Country for City Wage-earners' Children. G. Détré.

33. **Scarlet Fever Plus Measles.**—Brudzinski reports from the hospital for children at Lodz, Poland, 12 cases of scarlet fever plus measles, and discusses the cases of mixed infection on record, studying the way in which each infection is modified by the other. His experience does not indicate that one infection predisposes particularly to the other. The mortality with the double infection was only 8.3 per cent., while it was 24.4 per cent. of the total of 319 cases of scarlet fever during the year. Complications did not seem any more frequent with the double infection, except possibly otitis media. This was observed in 16.6 per cent., while in a total of 340 scarlet-fever patients in 1906 only 14 per cent. had otitis. Desquamation of both types seemed to be more intense with the mixed infection and to last much longer. Koplik's spots were of great service in revealing the superposed measles in some cases. One child developed measles on the thirty-seventh day of scarlatinal infection; both diseases were mild, but desquamation still persisted seven weeks after disappearance of the scarlet fever and three weeks after the measles. In hospitals and schools it is important to bear in mind the possibility of these double infections. Especially dangerous is it when children recovering from measles develop scarlet fever, as it is seldom recognized in these conditions and the children are allowed to return to school supposedly free from infection. Desquamation can be discovered in the palms if sought for.

34. **The Country for City Children During the Summer.**—Détré has observed in his dispensary work that after a summer in the country the smaller children brought to the clinic have suffered from the change instead of gaining. In 103 children specially examined for the purpose, only a very small proportion returned in better health than when they left. He now warns the parents in wage-earning families that the bad hygiene, the lack of supervision and the dangers of contagion outbalance the benefits of a stay in the country for very young children unless the mother can go, too. Even when the mother can go, he is inclined to advise against the country trip for the infants of the poor. But all is different when children are six years old or over; they have everything to gain, and nothing equals the life-giving influence of country air and freedom for them. The benefit is the greater the older the child, he declares; 53.3 per cent. of the children under the age of 2 returned worse off than when they left town, as did 34 per cent. of those between 2 and 6, sent to relatives or boarded out in the country. Moving about and long journeys seem to be particularly injurious for infants.

### Bulletin de l'Académie de Médecine, Paris

*January 18, LXXIV, No. 3, pp. 59-102*

35 Principles of [illegible] Pulmonary Tuberculosis. (Principes de la [illegible] ique. Essai d'antisepsie pulmonaire [illegible] du traitement de la phtisie pulmonaire.) A. Robin.

### Lyon Médical, Lyons

*January 2, XLII, No. 1, pp. 1-56*

36 *Systematic Oxygen Treatment of Bronchopneumonia in Children. Weill.

36. **Inhalation of Oxygen in Bronchopneumonia in Infants.**—Weill lauds the therapeutic inhalation of oxygen as a simple, harmless and reliable method of treating bronchopneumonia. It has to be used almost constantly to produce the best effect, and to be applied early. He orders oxygen as a routine measure now in every case of simple bronchitis in an infant when there is reason to fear extension of the inflammation to the lungs. Bronchitis thus combated rapidly subsides without complications. Especially urgent is the indication for the oxygen when signs of bronchopneumonia develop, even when there are still no physical signs, but merely an unexpected rise in temperature, accompanied by dyspnea, with abnormal respiration, persisting during sleep, inspiratory effort, the nails a little blue, distress and a special cough of the "moniliform type." He uses oxygen under high pressure; several hundred liters are compressed into a tank, taking from this for use as needed in rubber bags with a capacity of 30 liters that can be filled several times during the day. With 4 or 5 such bags the child can be kept supplied for several hours. He connects the bag with an apparatus which passes the oxygen through water, purifying and moistening it; it is then brought to the little patient, the ebonite tip of the tube is placed in the mouth or replaced by a triangular funnel that fits over the mouth and nose. Under the influence of the inhaled oxygen the lips grow red, the pulse decreases in frequency and the child breathes more easily and slowly and usually falls asleep. The oxygen not only relieves the symptoms, but acts directly on the infection. The temperature curve generally reflects the process in the lungs, and its definite drop under the oxygen demonstrates the beneficial influence of the inhalations. The oxygen is most liable to prove effectual if commenced early, and he urges its application without waiting for certain signs of the bronchopneumonia. He has gradually abandoned all other measures, although in desperate cases he leaves no stone unturned. His mortality from this disease has fallen to 20 per cent., but he does not regard statistics as of much significance in this disease. Of greater import is the enthusiasm among those who witness the effects of the oxygen treatment, also the way in which other physicians are now adopting the method.

### Presse Médicale, Paris

*January 19, XVIII, No. 6, pp. 41-48*

37 *Surgical Treatment of Chronic Edema. (Lymphangioplastie ou drainage capillaire par fils.) M. Guibé.
38 Experimental Acute Poliomyelitis. (Les expériences de Flexner et Lewis sur la poliomyélite expérimentale.) C. Jarvis. (Essais de culture du parasite de la paralysie infantile.) C. Levaditi.

37. **Lymphangioplasty in Treatment of Chronic Edema.**—Guibé reviews the work that has been done in this line by Handley, Mitchell, Lexer and Draudt. This method of silk drainage for lymphatic obstruction was described in THE JOURNAL, April 11, 1908, page 1225. The silk can be passed under the skin for long distances, the needle being drawn out at intervals and introduced again in the same hole. The operation gives good results in solid edema or, rather, elephantiasis; the only mishap liable is from possible infection of the thread. In some of the cases on record the threads were withdrawn on this account, but after the lymph had become sterile they were reinserted with ultimate success. In one of Lexer's cases the solid edema followed recurring erysipelas, but no infection of the silk drains followed. In one of Draudt's cases 12 silk threads were introduced and carried from the leg to the iliac fossa, with others in penis and scrotum draining into the groin.

### Revue de Chirurgie, Paris

*January, XXX, No. 1, pp. 1-134*

39 Operative Treatment in 3 Cases of Volvulus of the Large Intestine P. Lecène.
40 Lesions Resulting from Action of Hemispora. (Hémisporose humaine—nouvelle mycose.) Gougerot and Caraven. Commenced in No. 12.

### Semaine Médicale, Paris

*January 26, XXX, No. 4, pp. 37-48*

41 Extraperitoneal Cesarean Section to Date. R. de Bovis.

### Berliner klinische Wochenschrift, Berlin

*January 10, XLVII, No. 2, pp. 45-88*

42 Appendicitis in Sweden. (Zusammenstellung des Appendicitismaterials aus dem Allg. Kranken[illegible] [illegible] Bauer.
43 Disturbances in Motor Functioning [illegible] in Palate, Throa[illegible] Kinese und d[illegible] Kehlkopf der [illegible]
44 Shape of the S[illegible] (Form der W[illegible]
45 Production of [illegible] Lipoid Subst[illegible] körper durch [illegible]
46 Variability of Inoculation Tumors and their Spontaneous Cure. (Impftumoren und ihre Spontanheilung.) E. Saul.
47 *Tincture of Iodin for Sterilization of the Skin. (Zur Desinfektion der Haut mit Jodtinktur.) E. Unger.
48 Perforation of Living Child from Legal and Religious Standpoints. (Perforation des lebenden Kindes.) E. Holländer.

47. **Iodin Sterilization of Field of Operation.**—Unger has used Grossich's technic in 25 laparotomies and 50 other operations, and states that the simplicity, ease and good results have made him a friend of the method. He warns that the field of operation must be kept as dry as possible, for ascitic fluid, etc., washes away the tincture to some extent. In 15 cases of early diffuse peritonitis he mopped each tier of the suture well with the iodin, and healing was by primary intention in each case.

### Correspondenz-Blatt für Schweizer Aerzte, Basel

*January 20, XL, No. 3, pp. 57-88*

49 *Graphic Tracings of the Pulse. (Zur Technik der Pulsregistrierung.) A. Jaquet.
50 *Later Course of Traumatic Neuroses. (Nachuntersuchung bei traumatischen Neurosen.) O. Nägeli.

49. **Graphic Tracings of the Pulse.**—Jaquet gives the comparative tracings with various sphymographs and with sphygmochronographs of his own devising. His findings speak in favor of his own apparatus.

50. **Later Course of Traumatic Neuroses.**—Nägeli has been examining recently 138 persons who had been awarded an indemnity on account of an industrial traumatic neurosis. In direct contrast to the medical certificate in many cases, the later condition was found unexpectedly good. None presented evidences of permanent injury from the neurosis. The indemnity had been based on the assumed loss of from 30 to 80 per cent. of the earning capacity on account of the traumatic neurosis, but the earning capacity in all, except those with organic disease, was found equal to that before the accident and many were earning higher wages. The difference between his findings, in Switzerland, and those of physicians in Germany, he ascribes to the different mode of settling such claims. When the claim is settled definitely, once for all, the traumatic neurosis promptly subsides and the earning capacity is restored so far as the neurosis is concerned. It never recurred in any of the cases examined, and never developed into a psychosis. He declares that in future we can assure such patients of a speedy and permanent cure with a confidence which we have not hitherto possessed. This in itself will ward off neuroses in many cases. He appeals to others to inform him in regard to all cases of traumatic neurosis encountered, as he wishes to continue his research on the subject, hoping thus to establish a basis for this phase of industrial accident legislation.

### Deutsche medizinische Wochenschrift, Berlin

*January 20, XXXVI, No. 3, pp. 105-152*

51 *General Principles of Treatment of Poisonings. (Allgemeine Behandlung von Vergiftungen.) E. Harnack.
52 *Two Fatalities under Scopolamin-Morphin Anesthesia. (Todesfälle bei Skopolamin-Morphium-Narkose.) Rinne.
53 [illegible] litis. (Spinale Kinderlähmung.) F.
54 [illegible] a Prævia. S. Weinmann.
55 [illegible] serviceable in Serodiagnosis of Syphilis. [illegible] Kali bei der Wassermannschen Reaktion das Immunhämolysin ersetzen?) A. L. Garbat and F. Munk.
56 *Treatment of Syphilis in Light of Latest Research. F. Lesser.
57 Interpretation of Findings with Muscle-nucleus Test. (Zur Bewertung der Schmidtschen Kernprobe.) A. Hesse.

51. **Treatment of Poisoning.**—Among the special points emphasized in this general study of the subject of poisoning is the fact that the attempt may be made to mislead in regard to the poison used, not only with murder from poisoning, but also with suicides and poisoning from neglect. The rapidity of the toxic action is an important element; inhalation is especially dangerous, but there are certain poisons

whose effects are not felt after inhalation for some time, allowing a period of incubation. The mucosa of the vagina and uterus is an especially dangerous point of application for the metallic poisons and for iodoform. The mode of application is important, as means to get rid of the poison depend on this knowledge. A case of poisoning makes the highest demands on the knowledge, skill and presence of mind of the physician. No time should be wasted on half measures. While waiting for the stomach pump, large amounts of tepid water or milk containing a little soap are useful as emetics to dilute the poison, although with the drawback that they favor its solution. Medical emetics increase the weakness and muscular collapse, which is also liable with the stomach pump. The irritating emetics are the least appropriate; apomorphin seems to be the most reliable, given subcutaneously, but it has its drawbacks, and cannot be used for small children. The emetic does not dispense with the stomach pump; it may be necessary to resort to general anesthesia to introduce the stomach tube, so that a trained assistant should always be summoned in case of serious intoxication. Harnack urges the importance of rinsing out the stomach with a mucilaginous fluid; this protects and soothes the irritated mucosa and prevents absorption, and he warns that the rinsing out of the stomach is just as necessary even when the poison was not taken into the stomach, as many drugs are eliminated partly through the gastric mucosa. The mouth, throat and nose should also be irrigated with the mucilaginous fluid, as all the mucosæ possess marked absorbing properties. Warm castor oil seems to be the best laxative; it can be introduced through the stomach tube, but when the poison is soluble only in oil, a saline laxative should be preferred. Another point to bear in mind is that the respiration is so hindered in gas poisoning that artificial respiration may be needed and inhalation of pure oxygen may prove useful. Of extreme importance is venesection combined with saline infusion. Hydrogen dioxid may induce pulmonary embolism with subcutaneous injection, but the nascent oxygen may prove valuable in industrial hydrocyanic acid poisoning and should be accessible where such poisoning is liable. He discusses the dual antagonism between certain poisons, the antagonist not only stimulating, but also checking the action of the paralyzing poison; it is easier to paralyze an abnormally excited organ than to stimulate one already paralyzed. For instance, in general anesthesia the vomiting center is paralyzed and apomorphin injected has no emetic action, but it begins to show its influence as the effect of the anesthetic subsides. On the other hand, the respiration center is not paralyzed in general anesthesia and can be intensely stimulated by apomorphin, even in the midst of the anesthesia. The whole question of antagonism is not a simple sum, but a combination of stimulating and paralyzing actions which combine to form a peculiar picture, as he describes in detail. With an unconscious patient a mustard paste may be forgotten and lead to necrosis; all minor measures are inadvisable in severe cases. In case of great pain or excitement, injection of morphin is liable to bring on convulsions anew by reflex action; morphin is liable also to reduce the respiration still more and may transform the agitation into a dangerous paralysis. In chronic intoxication, potassium iodid and warm sulphur baths are certainly of some effect, although their action leaves much to be desired.

52. **Fatalities of Scopolamin-Morphin.**—Rinne's experience confirmed the advantages of this method of preparing the patients for an operation until two fatalities within three days warned him of its dangers. The cardiovascular system in these fatal cases was below par, and henceforth he will use a smaller dosage in such cases.

56. **Treatment of Syphilis According to Latest Research.**—Lesser has charge of the serodiagnostic tests at the Berlin clinic for skin diseases, and his experience has revealed some interesting facts in regard to the final cure of syphilis. In 525 cases the Wassermann test showed that 49 per cent. of the patients had thrown off the constitutional disease, judging from the repeatedly negative findings. Syphilitics never treated with mercury gave a positive reaction in all but 15 cases, while negative findings were obtained in 39 per cent. of those who had taken a single course of mercurial treatment soon after infection. The proportion of negative responses constantly increased with the number of courses of treatment, but the maximum seems to be reached with four courses (from 55 to 65 per cent. negative responses), and this proportion was not increased by more numerous courses. His experience has shown that the Wassermann test is a reliable index for treatment, the findings showing the dosage necessary in the individual case and the requisite duration of the course. A positive seroreaction invariably indicates, he affirms, the presence of still active spirochetes. A negative reaction in the early stage is of no import, but later, corresponding to the age of the syphilis, the evidence is favorable for a cure, and with increasing probability as the findings are repeatedly negative. It is not wise to have any routine practice of dosage nor length of treatment. One patient may have the positive findings transformed into negative with 30 mercurial injections, another with only 15, another with 40. The mercury is not able to abort constitutional syphilis, but it seems to paralyze the spirochetes. The peace of mind that comes with a permanent negative reaction is one of the greatest benefits of the seroreaction. He obtained a positive reaction in 76 of 112 cases of tabes and in all of 95 cases of progressive paralysis; he calls these the quartan stage of syphilis and awaits with impatience further testimony as to whether tabes and paralysis can develop in a patient long giving a permanently negative response to the Wassermann test. In 2 out of 112 cases of tabes, it developed immediately after severe trauma. In 28 cases syphilis was expressly denied and no mercury had been given, but the Wassermann test gave positive findings in 86 per cent., while the findings were positive in only 63 per cent. of the 82 tabetics with a manifest history of syphilis. It seems beyond question that this paradox is due to the mercurial treatment that had been undergone by the patients in this latter group. His experience has shown that the fifth year is the earliest limit at which negative findings, especially repeatedly negative, suggest the probability that the syphilis is cured; specific treatment should therefore be continued until a negative reaction is obtained, if obtainable without forcing. Lesser has never witnessed any harm from the more energetic courses of mercurial treatment. The Wassermann test is applied immediately after the close of the course of treatment, and he continues the treatment for a brief period, even after a negative response has been obtained.

### Deutsche Zeitschrift für Chirurgie, Leipsic

*December, CIII, Nos. 1-2, pp. 1-202*

58 Bilateral Mammary Tumors in Two Men. Familial Type. F. Gangitano.
59 Two Hundred and Eight Herniotomies. Schemmel.
60 Appearance of Pus Cells in the Blood Not Pathognomonic for Surgical Lesions. (Vorkommen von Eiterkörperchen im Blut und deren diagnostische Bedeutung bei chirurgischen Krankheiten.) R. Chiarolanza.
61 Radical Operation for Non-Incarcerated Hernia. L. Imfeld.
62 Fracture of Head of the Tibia. (Brüche des Schienbeinkopfes.) T. Gümbel.
63 Obturator and "Prevascular" Femoral Hernia. (Zur Kenntnis der Hernia obturatoria und der Hernia cruralis "praevascularis.") A. Zinner.
64 *Bone Autoplastic Operation to Close Defects in Skull. (Verfahren der Knochenautoplastik zur Ausfüllung von Substanzverlusten der Schädelknochen.) N. Leotta.
65 Incarceration of Loop of Small Intestine in Prolapse through Cecal Fistula. (Seltener Fall von Inkarzeration einer Dünndarmschlinge im Prolaps der hinteren Darmwand einer Cöcumfistel.) K. Usteri.
66 Treatment of Fracture of Spine, Dislocation and Compression. (Behandlung der Luxationskompressionsfrakturen der Wirbelsäule.) K. Robertson.

64. **Bone Autoplastics for Gaps in the Skull.**—Leotta cuts a flap including the periosteum and small thin slices of bone chiselled up from the bone below and still adherent to the periosteum. The aim is to have these chips square, about 1 cm. on each side. The free end of the flap is cut to correspond to the contour of the gap to be covered and it is stretched and smoothed along to cover it, which can be easily done, as he shows by illustrations. The flap can be cut in single horseshoe shape, or double, rectangular on both sides of the gap, the two flaps sutured together in the center. He has performed 17 double operations of the kind and 7 with single flaps, on 24 dogs, and the rapid regeneration of bone soon healed over the defect, the results surpassing, he asserts, anything of the kind observed with other technics.

### Fortschritte der Medizin, Leipsic

*January 13, XXVIII, No. 2, pp. 33-64*

67 Operative Treatment of Puerperal Thrombophlebitis. (Operative Behandlung der Thrombophlebitis septica im Wochenbett.) Osterloh.
68 Facial Paralysis after Extraction of Teeth. (Zahnextraktion und Fazialislähmung.) D. G. Zesas.
69 Improved Technic for Ehrlich's Dimethylaminobenzaldehyd Reaction. E. Münzer.

### Jahrbuch für Kinderheilkunde, Berlin

*January, LXXI, No. 1, pp. 1-122*

70 *Importance of Mineral Salts in Malnutrition in Infants. (Bedeutung der Mineralsalze bei den Ernährungsstörungen des Säuglings.) L. F. Meyer.
71 Percussion of Spine in Diagnosis of Tracheobronchial Tuberculous Glands in Children. (Verwertung der Wirbelsäulenperkussion bei der Diagnose der Tracheo-Bronchialdrüsentuberkulose im Kindesalter.) M. Michalowicz.
72 Favorable Influence of Serotherapy on Course and Mortality of Scarlet Fever. (Einfluss des Moserschen Serums auf dem Verlauf und die Mortalität des Scharlachs.) S. J. Fedinski.
73 *Later Fate of 28 Children with Chorea. (Nachuntersuchung nach 15-20 Jahren in 28 Fällen von Chorea minor.) G. Forssner.

70. **Metabolism of Mineral Salts and Malnutrition in Infants.**—Meyer discusses the importance of the mineral salts for the vital processes, emphasizing the fact that while plants seem to be able to dispense with sodium, it is indispensable for animals. It may possibly be necessary for the rapid processes of contraction in the action of the heart and respiration which are one of the main points of difference between animals and plants. The article issues from Finkelstein's service at Berlin and states that extensive research has confirmed the different action of the various salts; it seems to be a specific ion action. Sodium induces an accumulation of water so that the weight increases under its influence, while potassium and calcium either have no influence in this line or reduce the weight. The various salts also act differently on the temperature; sodium chlorid, bromid and iodid, by the mouth, send up the temperature after from two to four hours, reaching its acme about the sixth hour and gradually declining between the twelfth and twenty-fourth hours. The calcium salts seem to reduce the temperature; some of them may even be responsible for collapse. What has already been learned in regard to the metabolism of the mineral elements and nutritional disturbances opens new perspectives, he says, in regard to rachitis and tetany in children, the origin of fever and treatment of nephritis. Finkelstein classifies the disturbances in infants for which the food is responsible into the two great classes, "alimentary intoxication" and "alimentary decomposition," and he urges the adoption of these or similar terms in order to insure a uniform nomenclature to facilitate study of the problems involved. During alimentary decomposition and the disturbances which lead up to it, fats form soaps with the alkalies and an excessive proportion of mineral salts is eliminated in the "fat-soap stools." An exclusive starch diet also seems to be accompanied by a loss of salts, especially chlorids and sodium. No chlorids were found in the urine on a starch diet, not even for several days after being fed salt, showing the salt starvation from which they had been suffering and the avidity with which the salt was taken up by the tissues. This salt starvation must prevent secretion of normal gastric juice, which in turn prevents proper digestion of the food. The only means to arrest this waste of alkaline elements and malnutrition is to change at once to breast milk, which gradually rights conditions. The beneficial action of breast milk seems to be the property of the whey.

73. **Later Fate of 28 Children with Chorea.**—A previous article by Forssner on the later history of a number of children with acute articular rheumatism, heart disease and chorea, examined from 15 to 22 years later was summarized in THE JOURNAL, Aug. 28, 1909, page 754. He here discusses the present status of the 28 children with chorea minor, the ultimate findings suggesting that chorea attacks preferably children of weakly constitution. Out of the 23 children who lived to the age of 15, not less than 14, now present some chronic constitutional disease, tuberculosis, exophthalmic goiter, nephritis or some serious stomach affection, none a complication of the chorea. In 5 cases there are signs of pronounced heart disease and 7 of the children succumbed early to some cardiac lesion. On the other hand, among 35 children with articular rheumatism, only 4 have developed constitutional disease; 7 have died from heart disease and 3 from an intercurrent infection, but 21 are in good health, which is the case with only 1 of the 28 children who had chorea. Heart disease developed in 17 of this group. He summarizes the details; most of the children were under 10 at the time of their chorea. Only one child had reached the age of 14 and this patient is the one still in good health 22 years later, notwithstanding a recurrence of the chorea and an attack of acute rheumatism a year later. In 3 of the cases reported the chorea developed immediately after scarlet fever, pleurisy or hemorrhagic purpura.

### Medizinische Klinik, Berlin

*January 16, VI, No. 3, pp. 85-126*

74 *Diagnosis of Pancreatic Disease. (Diagnostik der Pankreaserkrankungen.) C. Klieneberger.
75 Recent Hamburg Diphtheria Epidemic. III. H. Much.
76 Early Operation Advisable in Appendicitis in Wage-Earners. (Das soziale Moment der Frühoperation bei Appendicitis acuta des Arbeiters.) Esau.
77 Periodic Indicanuria in Manic-Depressive Insanity. F. Taubert
78 Bacteriologic Findings in Certain Gastrointestinal Disturbances. (Einige bakteriologische Befunde bei Magen-Darmerkrankungen.) R. Latzel.
79 *Etiology and Treatment of Arteriosclerosis. M. Herz.

74. **Diagnosis of Pancreatic Disease.**—Klieneberger's article is addressed to the general practitioner and urges the importance of early differentiation of disturbances in pancreas functioning. In the first place the urine must be examined repeatedly for sugar and especially the tolerance for carbohydrates should be tested after a test dose of 100 gm. glucose. The stool should be examined for muscle fibers and fat, and it may also be useful to test whether the general condition improves materially under ingestion of a pancreatic ferment. Further aids in differentiation are the Sahli and Schmidt tests and examination of the stool with the casein method for the presence of a tryptic ferment. The Sahli test is the ingestion of a capsule, made of gelatin hardened in formalin, which is supposed to be dissolved only by the pancreatic juice in the intestine. The capsule is filled with iodin or methylene blue or salicylic acid, refound in the saliva or the urine. The Schmidt muscle-nucleus test is the ingestion of cubes of meat tied up in a little bag of gauze. The absence of the digestion of the nuclei in the muscle fibers in the bag speaks for lacking pancreatic digestion. The casein test for trypsin is simple and exact: 10 c.c. of the filtrate of the stool previously diluted with 3 parts of a 1 per thousand soda solution is mixed with 100 c.c. of a 0.5 per thousand solution of casein. The mixture is kept at 37 C. (98.6 F.) and examined from time to time for the presence of caseose by testing a portion with 1 per cent. acetic acid. The other tests for pancreas functioning, the Cammidge reaction, etc., are scarcely to be recommended to the general practitioner.

79. **Worry and Ambition as Cause of Arteriosclerosis.**—Herz states that he is becoming more and more impressed with the fact that his patients with arteriosclerosis are almost invariably those who take life too seriously and either from ambition or exalted sense of duty lead an especially strenuous life. His arteriosclerotic patients seldom include the carefree, self-centered people who enjoy life from day to day, without worrying. These seem to escape arteriosclerosis unless they acquire it indirectly by the syphilis route. He regards all this as an important guide for treatment and especially for prophylaxis of arteriosclerosis. By emphasizing more than ever the dangers of worry and undue strenuousness, and urging patients to take greater advantage of the sunshine of life and to refrain from a too serious view of responsibilities and care for the morrow, he is convinced that much arteriosclerosis can be warded off.

### Monatsschrift für Kinderheilkunde, Berlin

*November, VIII, No. 8, pp. 449-512*

80 Spinal Ganglia in Children. (Spinalganglien im Kindesalter.) J. Zappert.
81 Elimination of Milk-Sugar after Subcutaneous Injection (Versuche über Milchzuckerausscheidung nach subkutanen Injektionen.) J. L. Leopold and A. von Reuss.
82 Taking on of Fat with Natural and Artificial Feeding. (Ansatz bei natürlicher und künstlicher Ernährung.) A. Orgler.
83 Determination of Acidosis in Infants with Digestive Disturbances. (Ueber den mikrochemischen Nachweis der Azidose bei Ernährungsstörungen des Säuglings.) G. Koch.

replaced by a corresponding part of the patient's own fibula; the head of the fibula was made to articulate with the glenoid cavity while the lower end of the bone was implanted deep in the marrow part of the remaining third of the humerus. Now, two months after the operation, the patient is able to use his arm to feed himself and even to brush his hair while the movements of the forearm are practically normal. His earning capacity is restored for light work and his general health leaves nothing to be desired. The loss of the fibula does not affect his gait and the leg does not seem weaker than its mate to date. The case confirms the possibility of free transplantation of bone for various purposes provided that the bone is freshly removed. still enclosed in its periosteum. and derived from a healthy human being. and that the new bone can be effectually adapted to what is left of the old. The article is accompanied by several illustrations including skiagraphs.

### Hygiea, Stockholm

*December, LXXI, No. 12, pp. 1249-1376*

114 Surgery of Heart, with Report of Case of Firearm Wound. (Fall af skottskada å hjärtat.) E. Key and H. Liden.

115 *Thrombophlebitis of the Orbit After Syringing out the Lacrimal Sac. (Thrombo-phlebitis orbitæ efter tårsäcksköljning.) G. Lamm.

**115. Thrombophlebitis of the Orbit After Attempts to Sterilize the Lacrimal Sac.**—Lamm's case is the tenth he has found on record. The case histories emphasize the danger for the eye of any infection in the lacrimal sac. Total blindness resulted in 7 of the 10 cases, with a fatal termination to the infection in 1 case. Schwendt found amaurosis in nearly 80 per cent. of 49 cases of phlegmon of the orbit in the literature. Lamm gives a number of rules to be borne in mind in treating affections of the lacrimal passages in order to refrain from spreading the disease.

### Ugeskrift for Læger, Copenhagen

*December 30, LXXI, No. 52, pp. 1437-1448*

116 Advantages of Potassium Permanganate Method for Municipal Disinfection. (Lidt om Desinfektion of Boliger.) Struckmann.

*January 6, LXXII, No. 1, pp. 1-28*

117 *Dietetic Treatment of Nephritis. A. Fløystrup.

*January 13, No. 2, pp. 29-58*

118 *Diagnosis of Gastric Cancer. (Om Diagnosen af Cancer ventriculi.) Kramer-Petersen.

**117. Dietetic Treatment of Nephritis.**—Fløystrup expatiates on the great importance of recent acquisitions in medical science in respect *to the elements that favor nephritis.* It is evident that the dietetic regulations must be different according as the nephritis is acute or chronic parenchymatous or chronic interstitial nephritis. These three main groups of nephritis differ in their pathologic anatomy, the functional capacity of the kidneys and the treatment required. but the difference is most marked, perhaps, in regard to the diet indicated in each. Experience has demonstrated that uremia is most liable with interstitial nephritis, contracted kidney, while dropsy is most liable to accompany the parenchymatous form. The development of uremia is promoted by ingestion of albumin while dropsy is promoted by ingestion of salt. The indications therefore with interstitial nephritis are to restrict as much as possible ingestion of meat, eggs and albuminous substances in general, while with parenchymatous nephritis all that is necessary in this line is to limit the intake of salt. In acute nephritis there is a tendency to both parenchymatous and interstitial disturbances, and consequently the diet should exclude both albuminous substances and salt. Milk is useful on this account, but he warns expressly that a strict milk
diet is injurious if kept up for more than 6 or 8 days at
158.. It may also prove useful in the acute exacerbations
of va in the course of chronic nephritis, but it must be
cent. ind that it represents always undernutrition which
88. Surplied on for more than a brief period to tide the
lanini repo ome acute phase.
ing after c is of Gastric Cancer.—Petersen comments on
rebellious to the symptoms presented when the cancer is
months by c he cardia or between these points. When at
injection of nit most striking symptoms are the cramps and
to date. This tomach walls, evidences of retention in the
firms the adva and occult hemorrhage. When the cancer is
so as to keep ere are disturbances in swallowing and the

stomach sound clears up the diagnosis. When the cancer is located elsewhere than at these two points there is generally occult hemorrhage, and microscopic examination of the content from the fasting stomach reveals large numbers of blood corpuscles and tumor particles. Salomon's test also gives positive findings as also the tests for the presence of ferments. The *main point in the diagnosis of cancer is that the general practitioner thinks of its possibility when confronted with a case of gastric disturbances.* In Petersen's 60 cases slight hematemesis was observed in only 2 instances and melena in 2—thus in only 7 per cent. Chronic constipation was the rule in all but 3 of the patients. Long-continued constipation with loss of appetite and flesh suggest cancer without other signs. His patients were between 34 and 79, and he failed to diagnose the malignant disease in the youngest patient, although the pains, fever, and loss of 30 pounds in weight in three months might have suggested the true diagnosis. Colic two years before had been ascribed to lead poisoning. The appetite was persistently good, bowel functioning was normal. there was no glandular enlargement and nothing could be palpated although pressure at the cardia revealed slight tenderness. The Bourget test for the motor functioning gave negative findings and after an Ewald test meal no free hydrochloric acid. lab ferment or pepsin could be found. There was no hematemesis but the test for blood was positive and operation revealed malignant disease. The first symptoms of abdominal pain and fever had been observed only two months before. The colics diagnosed as due to lead poisoning had occurred several years before and during the interval since the patient was in good health. In another case Petersen's diagnosis of cancer proved to be erroneous. This patient was a man of 54 with pains in the epigastrium for three months, occasional vomiting and diarrhea. He digested light food without apparent trouble; there was no gastric hemorrhage; but he had lost considerably in weight. A tumor as large as a hen's egg could be palpated on the umbilical line to the right of the median line. movable. not tender. The Bourget test for motor functioning gave positive findings at one time but later it was negative. There was no free hydrochloric acid and no blood in the stomach content or stool but lactic acid was present in the stomach. Operation for the supposed cancer disclosed merely a large ileocecal invagination. no malignant disease. and the patient has been in good health since the resection of the invaginated portion of intestine.

## Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

TRANSACTIONS OF THE NATIONAL ASSOCIATION FOR THE STUDY OF EPILEPSY AND THE CARE AND TREATMENT OF EPILEPTICS. William P. Spratling, M.D., Baltimore, Permanent Editor, and J. F. Munson, M.D., Sonyea, N. Y., Associate Editor. Eighth Annual Meeting, Indianapolis, Nov. 10, 1908. Vol. VI. Paper. Pp. 149. 1909.

THE CATTLE TRADE OF WESTERN CANADA. Special Report by J. G. Rutherford, Veterinary Director, General and Live Stock Commissioner. Dominion of Canada Department of Agriculture Branch of Live Stock Commissioner. Paper. Pp. 23. Published by direction of the Hon. Sydney A. Fisher. Minister of Agriculture, Ottawa, Ont., 1909.

A PRACTICAL GUIDE TO THE ADMINISTRATION OF ANESTHETICS. By R. J. Probyn-Williams, M.D., Senior Anesthestist and Instructor in Anesthetics at the London Hospital. Cloth. Pp. 228, with 44 illustrations. Price, $1.60. Second Edition. New York: Longmans, Green & Co., 1909.

THE OXIDASES AND OTHER OXYGEN-CATALYSTS CONCERNED IN BIOLOGICAL OXIDATIONS. Hygienic Laboratory Bulletin No. 59, P. H. and M.-H. Service. By J. H. Kastle. Paper. Pp. 164. Washington: [Superintendent of Documents], Government Printing Office. 1910.

AN ENGLISH HANDBOOK TO THE PARIS MEDICAL SCHOOL. By A. A. Warden, M.D., Visiting Physician to the Hertford British Hospital, Paris. Paper. Pp. 52. Second Edition. Price, 2 shillings. Philadelphia: P. Blakiston's Son & Co., 1910.

ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MARYLAND FOR THE YEAR ENDING DECEMBER 31, 1907. [Dr. M. L. Price, Secretary, Baltimore.] Paper. Pp. 234, with illustrations. Baltimore, 1910.

THE QUEST. By Thomas A. Stoddard. Cloth. Pp. 167, with illustrations. Price, $1.50. New York: Cochrane Publishing Co., 1909.

REGULATIONS RELATING TO ANIMALS' QUARANTINE, 1909. Authorized by Canadian Department of Agriculture, Ottawa, Ont., Nov. 30, 1909. Paper. Pp. 27.

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## *Original Articles*

# SOME THERAPEUTIC ADAPTATIONS OF CECOSTOMY AND APPENDICOSTOMY

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My own experience for some time and that of other surgeons for longer periods indicate not only that ostiomatic operations on the intestinum cecum and the appendix vermiformis have already attained a considerable range of application, but that they are destined to be even more extensively employed especially as adjuncts of medical treatment in several very important diseased conditions. The application of these strictly surgical measures, now being undertaken with increasing frequency at the instance of strictly medical men for the purpose of assisting them in the treatment of hitherto intractable cases, seems, indeed, to be founded on very logical considerations. The practice is based primarily on a recognition of the fact that there are certain conditions which are strictly local to the colon and which are consequently better treated by measures addressed exclusive to the colon—the word "colon" being here employed to designate the whole of the large bowel from the ileocecal juncture to the rectum. This conception takes into account two additional facts of great practical importance, viz.: first, that the attempt to medicate the colon locally by way of the rectum is painful, tedious and generally unsatisfactory; and, second, that the attempt to medicate the colon by way of the stomach is fraught with uncertainties due (a) to unknown and undeterminable chemical change of medicaments in the stomach and upper intestines; (b) to resulting interference with digestion, both gastric and intestinal, and (c) to consequent impairment of the general health. It is recognized, furthermore, that, by direct access through the cecum by an entirely safe operation, not only are these objections entirely obviated, but that certain signal advantages are obtained. Among these advantages may be mentioned (a) the hygienic control of the large intestine; (b) the ability to apply treatment, medicinal, bacterial or dietetic, directly to the colon; and (c), by absorption therefrom, to influence the general system without reference to the condition of the stomach or of the upper intestine.

### SOME ANATOMIC FACTS

But before I take up the various therapeutic indications for which this relatively new surgical measure is being employed, I ask attention to a few anatomic facts that have a particular bearing on the choice of operation —that is, as between cecostomy and appendicostomy. Thus it is a matter of some significance (a) that the large pouch or convolution of the *intestinum cecum* is the part that lies in direct contact with the anterior abdominal wall; that consequently (b) it is from an inch to two inches nearer the parietal peritoneum than is the base of the mesoappendix, and (c) that it occupies a position directly opposite the valvula coli—a matter that I shall show to be of practical importance. Relative to the appendix vermiformis it is of some importance to remember (a) that its lumen is of variable diameter and, in certain cases, is entirely obliterated; (b) that the sickle-shaped fold of mucous membrane, the valvula processus vermiformis, at the cecal orifice of the appendix is sometimes absent; (c) that the meso-appendix is of variable length and is relatively inelastic; and (d) that the walls of the appendix proper are of variable thickness and are but poorly supplied with elastic tissue. Then, too, it should be kept in mind that the autonomic algesic areas of the cecum and appendix vermiformis correspond to the distribution of the tenth dorsal nerve to the obliquus internus, obliquus externis and transversus abdominis muscles and, in exceptional cases, to the distribution of the iliohypogastricus nerve in the groin—all, of course, on the right side.

### THE CHOICE OF OPERATION

I have mentioned these usually disregarded facts, because they have more or less bearing, first, on certain phenomena both preceding the following operation; and, second, on the choice of operation. With respect to the choice of operation I fear that I shall seem a trifle heterodox when I state that, all things being equal, I prefer the older procedure of cecostomy to the newer one of appendicostomy. If my colloquialism of "all things being equal" shall be interpreted to mean the average normal conformation of, respectively, the cecum and the appendix and the absence of pathologic states that make the appendix the logical avenue of ingress—and I confess I do not know which pathologic states should be so regarded—then I believe the force of the anatomic features to which I have called attention will incline to a decision on the side of cecostomy. Thus (a) the proximity of the presenting pouch of the cecum to the parietal peritoneum permits of its fixation in the operation wound practically *in situ naturalis;* (b) it can be utilized for either a small opening or a larger one as may be indicated; (c) it permits an opening through which a catheter may be passed at any time through the valvula coli into the small intestine; (d) it is free from undue tension after fixation, thus avoiding the possibility of breaking up the anchorage prematurely or causing painful adhesions following the operation; and (e), if properly managed, it is no more liable to be the source of fecal extravasation or the avenue for bacterial infection than is the appendix.

On the other hand, the remoteness of the appendiceal base (a) makes its fixation not infrequently a source of painful tension, which with (b) the pressure of its walls by a catheter causes (c) the whole appendix, relied on as a "tube," to perish—as a matter of fact the majority of appendices do perish within a few days after operation, leaving (d) the remaining condition one of cecostomy with an opening at an undesirable point; (e) the adhesions resulting from appendiceal implantation are, indeed, frequently very painful, owing to the constant traction, thus making a secondary operation necessary. There is likewise a tendency to induce (f) closure of the fistula earlier than may be desired—a natural consequence of the undue traction to which I have alluded.

The relation of both the cecum and the appendix to the autonomic nervous system has been demonstrated by Langley. Through the dorsolumbar division of this system, hyperalgesias are given definite and recognizable expression in the abdominal wall. In this way we are enabled to reduce conditions involving these structures to a more definite basis for diagnosis and to control the pain originating in them, either before or after operation, without overwhelming the sensorium with powerful narcotics. And, now, having said this much by way of introduction, permit me to pass to the application of my observations to the following conditions:

### IN AMEBIC DYSENTERY

The necessity for bringing the entire colon within the range of local medication, and the painful difficulty if not actual futility of doing so by injections through the rectum in the majority of cases of amebic dysentery, was the indication that first prompted the opening of the cecum as an elective operation in the otherwise medicinal treatment of this disease. The names of Skene Keith, White[1] and Murray are associated with the earliest development of this practice, which dates back only to 1895. Since that time the operation of cecostomy has been done for this purpose many hundreds of times, especially in the tropical countries in which the disease is prevalent. It has also been employed by John Bell[2] at the Government Civil Hospital, Hong Kong, for the treatment of dysentery caused by another but unnamed parasite peculiar to New Guiana. It was in a case of dysentery of possible amebic variety that prompted Weir[3] in 1901 to attempt a cecostomy when, according to his own account, "as the cecum was exposed the appendix rose so naturally that I determined to employ it to make the desired fistula." This was the beginning of appendicostomy, subsequently so called by Willy Meyer[4] of New York. The case did not prove to be amebic, but one of chronic mucous colitis, which was cured by the subsequent medication applied through the appendiceal tube.[3] The results achieved by this method of treatment in the strictly amebic variety of the disease, especially when of long standing, stamps it as the treatment of choice for a malady that too frequently defies all strictly medicinal resources.

### CHRONIC CATARRHAL OR MUCOUS COLITIS

The natural history of chronic catarrhal or mucous colitis and its resistance to all other forms of treatment and the comparative uniformity with which it yields to colonic lavage when applied and kept up through the cecum for periods varying from several weeks to several months, points to it as the one disease occurring in our climate that logically demands this form of intervention, especially in cases that have defied other treatments. This holds true whether the disease is simple or ulcerative. Some of the most satisfactory results have, indeed, been realized in cases such as one that recently occurred in my own practice, in which large mucous casts were shed and in which on examination by the sigmoidoscope the whole surface of the descending colon and of the sigmoid seemed to be granular. Keetley[6] reports a successful case in which no evidence of disease could be seen through the sigmoidoscope, but in which pain was experienced and mucous casts were shed from a localization of the disease evidently farther up than the splenic flexure of the colon. The value of the surgical treatment as compared with the former routine medical and dietetic treatment in the ulcerative variety of the disease is strikingly shown by two very contrasting reports. Murrell reported five cases of ulcerative colitis with four deaths and an average duration of ten months under polymedication. Holton C. Curl,[7] quoted by Keetley, reported 11 cases with 8 recoveries and 3 deaths (1 from chronic nephritis and the other patient moribund at time of operation), the average duration being much less than Murrell's cases, all having been treated by lavage through the cecum.

Keetley himself reports ten cases with nine cures. My own experience has been limited to 4 cases with 3 cures —the fourth patient having voluntarily discontinued the treatment before results were realized. I have not had time to collect the statistics of the operation in these cases at the hands of representative operators, but from other data at hand I am sure that the figures given are fairly representative of the whole. There ought to be no primary deaths from this operation in favorable cases, and I have seen no record of fatality attributable to it. I wish, however, to be emphatic that the operation is not one to be carelessly undertaken, or in other than the best aseptic surgical surroundings.

### CHRONIC CONSTIPATION

Constipation, especially of the atonic type and not complicated with enteroptosis, has yielded excellent results to colonic lavage through cecal irrigation. I may be pardoned if I refer briefly to a typical case in my own practice. A woman, age 42, was sent to the Good Samaritan Annex in April, 1909, with symptoms of intestinal obstruction. She gave a history of constipation extending over nearly her whole lifetime, the intervals between spontaneous defecations being sometimes as long as twelve days. The sigmoid was heavily laden, but the unloading of it by enemas and instrumental means did not relieve the symptoms of obstructions. I accordingly did an exploratory incision and found another focus of fetal accumulation—a virtual impaction—in the transverse colon near the splenic flexure. This was moved on into the descending colon by manual manipulation. Scybalous deposits could be felt in practically every convolution of the intestine. I thereupon opened the cecum and began the infusion of a very weak solvent and laxative solution, consisting of one ounce of magnesium sulphate to one gallon of water at 105 F. This was very slowly infused at intervals of every six hours until by the end of the second day the incredible amount of fecal discharge indicated that the colon had been thoroughly unloaded. The treatment was then continued by flushing the colon once daily with hot normal salt solution, the heat acting as a stimulus to provoke vigorous contractions of the bowel. This was the central feature of a more comprehensive treatment, chiefly dietetic, that was continued for the next two months. The patient, with the tube *in situ*, went about her usual tasks after the second week following the operation. It was finally removed after seven weeks. The fistula closed spontaneously. Reports by other operators, notably Keetley,[6] indicate not only that my experience is not unique, but that the treatment should be one of choice in all cases of chronic constipation due to atony and not complicated with coloptosis and in which other treatment has failed to bring permanent relief.

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[1] White, W. Hale: Lancet, London, March 2 1895, p. 537.
[2] Bell, John: Lancet, London, Jan. 16, 1909.
[3] Weir, Robert F.: Med. Rec., New York, Aug. 9, 1902.
[4] Meyer, Willy: Med. News, Aug. 26, 1905.
[6] Keetley, C. B.: Brit. Med. Jour., Oct. 7, 1905.
[7] Curl, Holton C.: Ann. Surg., 1906, p. 543.

### ACUTE SEPTIC PERITONITIS

The adaptation of a cecal opening for postoperative treatment of acute septic peritonitis is accomplished by the method that I have termed "coloclysis" and is illustrated by two cases that occured in my service in the Cincinnati Hospital in May of this year, and recently reported to the Cincinnati Obstetrical Society. One patient, referred to the service by my colleague, Dr. E. W. Mitchell, was admitted five days after evident rupture of a pus tube, with temperature 103.5, pulse 130, respiration 26, general tympanites, white count 17,000. She was operated on immediately by incision on the right side, and a leaking pus tube was removed, as was the appendix vermiformis. The other tube was not involved. The patient required an intravenous salt infusion during the course of the operation, which I concluded by fixing the cecum in the incision, opening it and in the opening snugly adjusting a large-sized catheter. The patient was hurriedly returned to bed, a thick but short rectal tube was inserted and the cecal tube was attached to a reservoir of water at 105 F. In this way the colon was speedily filled, becoming in effect a hot-water bottle on the inside of the abdomen. As soon as reaction had been thus promptly induced and the colon had been thoroughly washed out, the treatment was kept up by the continuous infusion of normal salt solution through the cecal tube by the drop method. Later the patient was nourished through the tube. She made a prompt recovery. A second case occurred on the same service the we [illegible] all essential particulars as to the [illegible] and results was sufficiently like the preceding one to make a longer reference unnecessary in this connection.

The eligibility of coloclysis as compared with rectoclysis is, I believe, apparent. I may, however, emphasize the following points: 1. Coloclysis permits the immediate application of heat on the inside of the abdomen precisely at the place and at the time that it is most needed. 2. It at the same time thoroughly washes out the colon, thus removing not only the fecal content but the toxins with which it is laden. 2. It permits the immediate and indefinitely sustained infusion of normal saline solution into the colon at a point whence it cannot be expelled, voluntarily or involuntarily, by the patient and whence it must traverse the entire absorbent area by which can be and, in my experience, uniformly is taken up before it reaches the anus. 4. It permits the nourishment of the patient by the administration of liquid nutritives by the same method, under precisely the same conditions, and entirely independent of the tolerance of the rectum or the state of the stomach. 5. It makes possible the catheterization of the small intestine through the valvula coli and the consequent flushing of the upper bowel when necessary for the relief of either tympany or volvulus occurring in that division following operations.

### INTUSSUSCEPTION

The association of ideas prompts me next to mention the eligibility of ostiomatic operations on the cecum in cases of intussusception. That this is the correct form of intervention in many, if not a majority, of these cases seems to be indicated by the phenomenal experience of Mr. Charles Clubbe,[8] of Melbourne, in 144 operations performed in fourteen years. In the majority of the cases the trouble began in the ileocecal connection. The beneficial influence of the direct application of heat to a bowel wall that is injured on both its mucous and serous surfaces and that may be near the perishing point from long interference with its circulation is too obvious to require discussion. It is known, furthermore, that there is a tendency to early if not immediate recurrence in these cases and this tendency, it would seem, can be materially controlled by irrigating the cecum at will with considerable volumes of water. This contention has been resisted by Mr. Cardwine.[9] As his objection is based on a single case of recurrence six months after the operation and presumably almost as long after the closure of the appendiceal fistula, I cannot concede that his point is well taken, except in so far as it shows that fixation of the cecum is not a guarantee against recurrence of the intussusception at some more or less remote period. On the other hand, that the tendency of such an anchorage of the cecum, in the event of recurrence, is to reduce the invagination to the minimum and to keep the trouble in the right lower quadrant where it can be more easily reached is certainly a fair deduction from the plain principles of physics that are involved. This is, furthermore, confirmed by the fact that the cases so far treated by this method point to its high efficiency.

### DEFECTIVE FLORA OF THE COLON

The condition of defective flora of the colon is here specified because it is believed, first, that there is an approximately normal flora of the colon and, second, that bacterial deficiencies in the colon are sometimes responsible for the impairment of its functions. This was shown in a case in which I did an appendicostomy in January, 1909,[10] and in which the study of the flora of the colon was begun by Dr. W. H. Strietmann of the bacteriologic department of the University of Cincinnati. Standardization bouillon and agar-agar were used and inoculations were made from the feces, both through the wound in the cecum and as they were discharged by the rectum. After the cultures were incubated plates were poured. These observations showed no anaerobes, while the plates revealed only a pure culture of a bacillus with rounded ends, non-motile, which produced acid and gas and coagulated milk and was probably *Bacillus lactis aerogenes.*

Ten days later it was found that one of the plates revealed a single colony of *B. coli communis.* Later cultures modified this finding but slightly. Those from February 3 to 6 showed greenish coloration in the bouillon, while the hanging-drop revealed a motile bacillus and a non-motile one of different size. Agar plates showed the same green color and this same bacterium in Gram-positive. It was probably *B. pyocyaneus,* which may have reached the colon through the appendicostomy wound.

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[8] Clubbe, Charles: Brit. Med. Jour., June 15, 1907.

[9] Cardwine, S.: Brit. Med. Jour., Jan. 16, 1909.

[10] Reed, Charles A. L.: Direct Bacterial Treatment of the Colon through the Vermiform Appendix, THE JOURNAL A. M. A., Feb. 20, 1909, lii, 636.

These revelations, indicating the practically complete absence of the usual flora of the colon, suggested a change of treatment. Milk cultures of the *B. lactis aerogenes*, *B. bulgaricus* and the *Streptococcus lacticus* were accordingly thrown through the tube directly into the colon. This on two occasions was fortified with the *Saccharomyces cerevisiæ*. The trend of the case was in the direction of a more normal average flora according to the standard established by Herter, when the patient discontinued the treatment. I urge these observations as suggestions for a further trial by other operators.

### AUTOINTOXICATION OF INTESTINAL ORIGIN

The series of facts established by Herter, namely, first, that oxygen exists only in the small intestines; second, that bacteria in the large intestines must, therefore, be anaerobic; third, that these anaerobes elaborate a toxin, and, fourth, that this toxin is absorbed from the colon into the system, is a logical explanation of many abnormal conditions affecting the general system.[11] Hollis, Ditmar and Burch,[12] accepting this theory of causation of pernicious anemia, have successfully treated that disease by colonic lavage through the cecum. Laplace[13] has reported cure in a case of idiopathic epilepsy that had existed from childhood in a patient of 23 and that had developed into daily seizures of great severity. The patient had no seizure after the first day following operation for the establishment of lavage through the cecum. The irrigations were continued for ten months. Armstrong has reported[14] the successful treatment of rheumatoid arthritis by the application of the same principle. Bennett,[15] Ewart[16] and Maunsell[16] have called attention to the advantage in dealing in this way with the toxins elaborated in the course of enteric fever. Dr. R. W. Thomas,[17] of the Cincinnati Hospital, to whom I am indebted for much research on this question, has developed the physics involved in the application of this method to the irrigation of the small intestines in typhoid.[18]

### CONCLUSION

I wish in conclusion to emphasize a few facts which, I believe, have become apparent from this brief survey[19] of an extensive subject as follows:

1. The establishment of colonic irrigation through the cecum, whether by cecostomy or appendicostomy, is a procedure which, when properly done under safe surroundings, is attended with the minimum of surgical risk.[20]
2. The application of the operation as an adjunct of medical treatment, under the conditions indicated, is based on the principle of direct treatment of the colon for conditions that are local to the colon.
3. The operations of (a) coloclysis in septic peritonitis; cecal access to the colon (b) for purposes of nutrition following operation, (c) for irrigation and medication in amebic dysentery, (d) for chronic mucous colitis and (e) for other conditions of the mucosa of the colon not amenable to other treatment, stand on a basis of logical and clinically demonstrated value.
4. The treatment of various toxemias due to autointoxication of intestinal origin offer a field for the legitimate trial of ostiomatic operation on the cecum as a means of bringing the colon under control and eliminating its toxic content.
5. The results so far realized justify the continued use of the operation and the more extended application of the principle that it embodies.

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[11] Dr. J. M. T. Finney, Baltimore, in the discussion of this paper, urged that this method of treatment deserved more serious consideration as the treatment of election in cases of neurasthenia dependent, of course, on auto-intoxication of intestinal origin, and alluded to some successful experiences at his own hands.

[12] Burch, Lucius E.: Appendicostomy in Pernicious Anemia, The Journal A. M. A., March 13, 1909, lii, 888.

[13] Laplace, Ernest: Preliminary Report of the Treatment of Idiopathic Epilepsy by Appendicostomy for Colonic Irrigation, The Journal A. M. A., June 2, 1906, xlvi, 1678.

[14] Armstong, W.: Lancet, London, Feb. 13, 1909.

[15] Bennett, Sir W. H.: Lancet, London, Feb. 17, 1906, p. 419.

[16] Ewart, William: Lancet, London, May 12, 1906.

[17] Personal letter to the author.

[18] Dr. W. M. Polk. New York, in the discussion of this method as applied to the treatment of "typhoid reservoirs," i. e., persons who having had typhoid fever and having thus become immune and in whom the typhoid bacillus has become a permanent feature of their intestinal flora, continue to disseminate the disease through their dejecta. He instanced "Typhoid Mary," a somewhat notorious example of this form of pestilential center, to whom many cases of typhoid had been traced, and who had finally been quarantined for the protection of the community.

[19] Additional contributions to which, in a general way, I am indebted for my conclusions on this subject, are:

Allen, R. W.: Brit. Med. Jour., Nov. 28, 1908.
Barry, C. C.: Indian Med. Gazette, June, 1908.
Bolton, Percy R.: Ann. Surg., May, 1901.
Bushnell, F.: Brit. Med. Jour., Nov. 28, 1908.
Dawbarn, Robert H. M.: Ann. Surg., 1903, p. 613.
Dawson, J. B.: Brit. Med. Jour., Jan. 9, 1909.
Gant, S.: New York Med. Jour., Sept. 8, 1906.
Glover, S. G.: Lancet, London, Jan. 9, 1909.
Gray, H. M. W.: Brit. Med. Jour., Mach 3, 1906, p. 596.
Gray, Oscar: Tr. Ark. State Med. Assn., 1908.
Pottenger, J. A.: Lancet, London, Dec. 28, 1907.
Stritton, J. L.: Lancet, London, March 14, 1908.
Willis, W. Morley: Lancet, London, April 28, 1906.
Tuttle, James P.: *Appendicostomy*, The Journal A. M. A., Aug. 11, 1906, xlvii, 426.

[20] Dr. G. S. Hanes, in discussing this paper, stated that he had treated many cases of amebic dysentery by irrigating the colon through the rectum but that he had been unable to do so satisfactorily without opening the cecum—I think by appendicostomy—for the purpose of permitting the displacement of the gas always present in the colon.

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# THE VALUE OF BLOOD-CULTURES IN THE DIAGNOSIS OF TYPHOID FEVER*

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The aspect of typhoid fever which has aroused most interest within the past few years is the presence of the bacillus in the blood. Although it had not infrequently been recovered, the impression was general, until five or six years ago, that the typhoid bacillus rarely invaded the circulating blood. In an exhaustive review of the bacteriology of the blood in 1903, Rosenberger[1] showed that this view must be modified. He collected the records of all the examinations to date, numbering 518, in which the bacillus was recovered 419 times. Although it was thus proved that invasion of the blood-stream is frequent, the belief remained that in typhoid, as in diphtheria, bacteriemia is a mere incident of the infection and by no means requisite to the production of the clinical picture.

In 1907 Coleman and Buxton[2] published an analysis of 1,602 examinations, including 123 of their own, of which 75 per cent. were positive. These were made at all stages of the disease and by different methods. That the number of positive results by no means represents the true frequency with which the bacillus is present in the blood is shown by the higher percentages of many of the workers, some finding the bacillus in every case examined. Coleman and Buxton conclude that "the typhoid bacillus is present in the blood in every case of typhoid fever, and that failure to recover it is due to error of technic," and they advance the theory that the disease is "caused by destruction of vast numbers of bacilli in the blood, with liberation of their endotoxins and the consequent reaction on the part of the host. Where the endotoxins are liberated elsewhere in the body, e. g., in abscesses, the symptomatology is not that of typhoid fever."

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* Read before the Medical Society of the City and County of Denver, Oct. 19, 1909.

[1] Rosenberger: Am. Jour. Med. Sc., 1903, cxxvi, 234.

[2] Coleman and Buxton: Am. Jour. Med. Sc., 1907, cxxxiii, 896.

During these purely scientific studies of the bacteriemia of typhoid it became evident that blood-cultures might be turned to practical account in clinical work. If, as seems probable, the presence and destruction of bacilli in the blood are the essential factors in the causation of the disease, a bacteriologic examination of the blood is a rational procedure and should offer a means of making an absolute diagnosis, being limited only by insurmountable difficulties in technic. If, on the other hand, the bacteriemia is a mere incident of the infection, more or less accidental even though frequent, the method is an empirical one, and its value can be determined from the records of a considerable number of cases. Nearly all the work in the past few years has, accordingly, been directed to these practical ends: (1) simplification of technic, so that the method might be available for routine work; and (2) determination of its value and limitations when so applied. Results attained in clinical work, where simple methods and quick returns are imperative, would presumably be less reliable than those reached in research with elaborate and time-consuming methods.

The greatest advance in technic was the introduction by Conradi,[3] Kayser[4] and others of the bile culture media. The older cumbersome and time-consuming methods which constituted the chief bar to the general use of blood-cultures were done away with, and the method at once became available for clinical work. Further advances have been along the line of showing how easily the work can be done, as, for example, that excellent results can be had with blood from a simple puncture of the skin like that required for a blood-count.

In discussing the practical value and limitations of the method, a number of points must be considered: the frequency of positive results and the stage of the disease in which they are obtained; the value of the method compared with the Widal agglutination test; the time required; and certain details of the technic.

### I. FREQUENCY OF POSITIVE RESULTS

The 1,602 examinations yielding 75 per cent. positive results, which were collected by Coleman and Buxton, have already been mentioned. These authors state that they themselves have recovered the bacillus from all of the 24 cases examined since their adoption of the bile medium. Epstein,[5] using various media, obtained positive results in 70.5 per cent. of 122 examinations, but mentions that more of his cases were studied late in the disease than has been the case with other workers. Joslin and Overlander[6] reported 30 examinations, of which 70 per cent. were positive. Very recently Lyons[7] has recorded 20 examinations, 90 per cent. of which were positive. The total frequency of positive results is thus about 75 per cent.; but this by no means represents the value of the blood-culture in diagnosis. The important fact is that the highest percentages appear early in the disease, when other methods of diagnosis are least reliable. Thus, Coleman and Buxton's collected cases gave 89 per cent. positive in the first week; 73 per cent. in the second; 60 per cent. in the third; 39 per cent. in the fourth; and 26 per cent. after the fourth. Epstein recovered the bacillus from 7 out of 8 cases in the first week; 39 of 44 cases in the second; 25 of 42 cases in the third; and 8 of 15 cases in the fourth. In 23 relapses, he recovered the bacillus 16 times. Joslin and Overlander's cases are classified as follows: first week, 5 cases, all positive; second week, 19 cases, 11 positive; third week, 2 cases, both positive; later, 4 cases, 3 positive, including two in relapse, both positive. Of Lyons' 20 cases, 11 were in the first and second weeks, and these were all positive. All of these workers obtained the blood from a vein.

Conradi was the first to indicate that a large quantity of blood is not imperative, and that excellent results can be had with blood from an ordinary skin puncture. He used 0.5 to 2 c.c. of blood from the ear and isolated the specific organism in 50 per cent. of 56 cases of typhoid and paratyphoid. This simple manner of securing the blood was subsequently neglected until Peabody,[8] early in 1908, confirmed and emphasized its usefulness. He reported 33 examinations: 5 cases in the first week, all positive; 19 cases in the second week, 78.9 per cent. positive; 9 cases in the third and fourth weeks, 44.4 per cent. positive. Taft and Maybee[9] studied a total of 98 cases by this method. They recovered the bacillus in 95 per cent. of 20 cases in the first week; 17.7 per cent. of 71 cases in the second week; and 14.2 per cent. of 7 cases in the third week.

Very recently I have made blood-cultures in 32 cases of suspected typhoid fever, some at the County Hospital, some in private work; and, although the series is small, it well illustrates the usefulness of this method of diagnosis. Nine of the patients proved not to have typhoid, and in none of these was any organism recovered from the blood. Of the remaining 23 cases, 17, or 73.9 per cent. gave the typhoid bacillus, and 6 gave no growth. In a few cases, early in the disease, the blood was obtained from a puncture of finger or ear; in most cases it was obtained from a vein; but as the results were identical they are included together in the tabulated analysis.

TABULATED ANALYSIS OF BLOOD-CULTURES

| | Blood-Culture | | | Widal | | |
|---|---|---|---|---|---|---|
| | No. Cases. | No. Positive. | % | No. Cases. | No. Positive. | % |
| First week.... | 5 | 5 | 100 | 4 | 3 | 75 |
| Second week.. | 10 | 9 | 90 | 9 | 7 | 77.7 |
| Third week... | 8 | 3 | 37.5 | 7 | 6 | 85.7 |
| Total ..... | 23 | 17 | 73.9 | 20 | 16 | 80 |

All of the nine examinations made prior to the tenth day of the disease were positive.

It is thus clearly evident that the blood-culture offers an almost certain means of diagnosis in the first week and is very helpful, though progressively less so, later in the disease; and that it is a valuable aid in distinguishing a true relapse from a febrile complication. In the first week it is probably a matter of indifference whether the blood be obtained from a vein or a skin puncture. The simplicity of the latter procedure removes the only remaining obstacle to the general use of blood-cultures in typhoid—the general reluctance to undertake a formal vein puncture—and should ensure their employment in every suspected case.

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[3] Conradi: Deutsch. med. Wchnschr., 1906, xxxii, 58.

[4] Kayser: München. med. Wchnschr., 1906, liii, 823.

[5] Epstein, A.: Am. Jour. Med. Sc., 1908, cxxxvi, 190.

[6] Joslin and Overlander: Boston Med. and Surg. Jour., 1908, clviii, 667.

[7] Lyons, Randolph: The Clot-Culture in Conjunction with the Agglutination Test in Typhoid, Arch. Int. Med., 1909, iv, 64.

[8] Peabody, F. W.: The Diagnosis of Typhoid Fever by Cultures from the Blood of the Ear, Arch. Int. Med., 1908, i, 149.

[9] Taft and Maybee: Boston Med. and Surg. Jour., 1908, clviii, 863.

### II. COMPARISON WITH THE WIDAL TEST

The blood-culture and the Widal agglutination reaction are in a certain sense complementary. The former becomes less reliable as the disease progresses, while the reliability of the latter steadily increases. This is to be expected when one considers that increased production of the antibodies on which the agglutination phenomenon depends must result in increased destruction of bacilli in the blood. Even though living bacilli be present, their vitality may be so reduced that they will not grow. On theoretical grounds, then, one would expect best results with blood-cultures when the Widal test is negative, and this accords with the empirical facts. The Widal is commonly negative in the first week of the disease, whereas the bacilli can be recovered in practically every case at this stage. My own cases sufficiently illustrate this: Of seven examinations before the tenth day, where the two tests were made together, the bacillus was recovered in 7 (100 per cent.), while the Widal was positive in four (57 per cent.). Early diagnosis is the goal in all clinical work and is especially important in typhoid fever in view of the now recognized contagiousness of the disease in the first week; and for this the blood culture is pre-eminently the method of choice. Bacilli have been recovered from the blood four days before the appearance of symptoms. Combination of the two methods will establish the diagnosis with certainty in nearly every case at any stage.

A simple and useful outgrowth of the formal blood-culture is the "clot-culture" used as confirmation and elaboration of the Widal test. Various European workers have recovered the bacillus from the clot remaining after a Widal examination—representing often less than a drop of blood. The examinations reported by Müller and Gräf,[10] Fornet,[10] Kurpjuweit,[10] and Conradi[11] total 539, the bacillus being recovered in 160, or about 30 per cent. Clot-cultures have been seldom used in this country. Recently Lyons[7] reported 20 examinations and made an interesting comparison. The clot-culture was positive in 12 cases (60 per cent.), the Widal in 10 (50 per cent.), and the two coincided in only 5 cases. By combining the clot-culture with the Widal the diagnosis was established in 85 per cent., which almost doubled the value of the latter used alone.

Another advantage of the culture is its definiteness. Although there is some variation in the time necessary to reach a conclusion, the final result is definitely negative or definitely positive. Any one who has made a considerable number of Widal examinations knows the frequency of doubtful reactions, where the personal experience of the worker is the chief factor in their interpretation.

Still another advantage of the culture method is in paratyphoid infections, which resemble typhoid clinically, but usually fail to give the agglutination reaction with typhoid bacilli. Here cultures are as valuable as in true typhoid, the paratyphoid bacillus being distinguished from the typhoid chiefly by its action on certain sugars. These cases are not very frequent, but may lead to much confusion because of the persistent absence of the Widal test.

### III. TIME REQUIRED

This is always an important consideration in a clinical method. Taft and Maybee were able to find the bacillus within twelve hours in many cases; in other cases eighteen or twenty-four hours were required. Only once, when the bacilli were present at all, did I fail to find them within twenty-four hours. This exception occurred in a mild case when only ten drops of blood were used.

### IV. TECHNIC

Briefly, the method is as follows: The blood is obtained from a skin puncture or a vein, and is put as soon as possible into a test-tube containing the special culture medium. This is incubated for six to twelve hours, and tubes of bouillon or solidified blood-serum are inoculated. These also are incubated, and at intervals stained and hanging-drop preparations are made and searched for bacilli. If motile, Gram-negative bacilli are found, they are presumably typhoid bacilli, but cultures on special media are required to identify them positively.

Certain details require special mention.

Where the procedure can be carried out properly, it is preferable to secure the blood from a vein. By furnishing a larger quantity of blood it increases the likelihood of finding the bacillus; and it prevents contamination by bacteria from the skin. The skin at the bend of the elbow is prepared as for any minor operation, or it may be simply well rubbed with 80 per cent. alcohol; a bandage is applied to the upper arm; and, when the veins are sufficiently distended, a hypodermic needle attached to a syringe is introduced into any one that is prominent. Blood generally begins to rise in the syringe at once. When a sufficient quantity is obtained, the bandage is loosened, the needle withdrawn, and the blood allowed to run into the culture-tube. It is usually easy to secure 2 to 5 c.c. of blood, often more. The chief disadvantage of the method is that it requires a nurse or other assistant, and that the preparations may disturb a nervous patient. The operation itself causes surprisingly little inconvenience, seldom more than an ordinary hypodermic injection. There is usually little difficulty in entering the vein, except in children and in adults when the arm is fat and the veins are small. Instead of a syringe one can use a large glass tube which has been drawn out at the ends and ground to fit a "slip-on" hypodermic needle. These little instruments cost only about fifty cents, and several of them can be kept on hand in test-tubes sterilized ready for use.

In the other method a puncture of the ear is made exactly as for a blood-count, and the blood is pressed out and allowed to drop directly into the culture tube. This is open to the objections that only a small quantity of blood is secured—seldom more than 1 or 2 c.c.—and that the likelihood of contamination is great. It has been clearly proved, however, that results are little, if at all, inferior, in the first week, to those with the more elaborate method, and that, while contamination is always possible, it does not greatly interfere with detection of the bacillus when bile medium is used. This simple procedure is applicable to all cases in the first week, and may be used during the second week when conditions are not favorable for the more formal method, as is usually the case in private houses.

The medium which is now used by the majority of workers is simple ox-bile or pig-bile sterilized in an autoclave. I use a 12 or 15 per cent. solution of Squibb's inspissated ox-gall and sometimes add 1 or 2 per cent. of peptone. Advantages claimed for the bile medium are that it prevents coagulation of the blood and consequent increase of its bactericidal power; that it allows the use of small quantities of medium which can be handled in test-tubes; that it furnishes a most excellent medium for the growth of the bacillus, which is an important consideration in view of the probability that most of the bacilli in the blood may be much reduced in vitality, and that it retards the growth of most contaminating organisms. Certain workers have thought that the advantage of the bile lies solely in its prevention of coagulation of the blood. Epstein,[5] after a careful study of various media, reports even better results with his oxalate solution.

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[10] Cited by Lyons: Arch. Int. Med., 1909, iv, 64.

[11] Conradi, H.: Bacteriologic Early Diagnosis of Typhoid, München. med. Wchnschr., 1907, liii, No. 49; abstr. in THE JOURNAL A. M. A., 1907, xlviii, 375.

When a Gram-negative, motile bacillus is found, it may be reported at once as very probably the typhoid bacillus. In every case in which I recovered an organism with these characteristics, it proved on further study to be the typhoid bacillus. Others, however, have recovered paratyphoid and colon bacilli, so that further tests should always be carried out, such as gas formation in dextrose media and indol production. The agglutination test for the identity of the bacillus is not available in routine work, since, as is well known, freshly isolated bacilli do not agglutinate well.

### CONCLUSIONS

1. Bacilli are present in the blood in every case of typhoid fever throughout its course, and their destruction with liberation of endotoxins is the probable cause of the disease.
2. Bacteriologic examination of the blood offers a means of making a positive diagnosis in practically every case during the first week. Its usefulness decreases as the disease progresses, but is still great during the second and third weeks.
3. The blood-culture is in a sense complementary to the Widal test, the one decreasing as the other increases in reliability; but the former is the more useful in that it allows of earlier diagnosis, and that its results are not liable to misinterpretation. The two methods, used together, will establish the diagnosis in nearly every case at any stage.
4. Bacilli disappear from the blood in convalescence and reappear in a relapse; and a culture is thus useful in distinguishing a true relapse from a febrile complication.
5. The technic is so simple that the blood-culture is applicable to routine clinical work, and should be employed in every suspected case. The most reliable results are secured when the blood is withdrawn from a vein, and this method should be adopted whenever practicable. When the blood is obtained from a skin puncture, results in the first week are slightly, if at all, inferior; and this method may be used when the other is not feasible.
6. The time required for detection of the bacillus is usually twenty-four hours.

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**Achondroplasia in a Twin.**—Achondroplasia in a female twin aged 18 months is reported by Hutchison (*Proc. Royal Soc. Medicine, December, 1909*). The other twin, a boy, was normal. The children were born at full time. The health of the mother during pregnancy was good. There had been two miscarriages

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# SOME EFFECTS OF SODIUM BENZOATE *

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### INTRODUCTION

This research was undertaken because of strikingly different experiences with sodium benzoate when taken by mouth in the following ways: (a) pure, as dry crystalline salt, or in aqueous solution; (b) in neutral or alkaline solutions, or in mixtures rich in fat, carbohydrate or protein, e. g., milk; (c) in acid vegetables or fruit, either warm, as in tomato soup, or cold, as in canned plums, peaches, tomatoes, etc.; (d) in beverages containing large percentages of organic acids, e. g., cider, lemonade, grape juice, etc.; (e) in mixtures containing inorganic acids, e. g., artificial gastric juice.

Brunton[1] has compiled data that show the comparative arresting influence of various drugs on the action of ferments (Table 1). From these data it is evident that the inhibiting action of a given amount of benzoic acid in combined form, e. g., sodium benzoate, is very much weaker than when the benzoic acid is free.[2]

TABLE 1

Comparative effects of benzoic acid and sodium benzoate on ferments in aqueous solution. The numbers indicate the dilution in which one part of the substance is effective in stopping the action of the enzyme.

| | Emulsin. | Myrosin. | Diastase. | Invertin. | Ptyalin. | Pepsin. | Pancreatin. | Rennet. |
|---|---|---|---|---|---|---|---|---|
| Benzoic acid..... | 2100 | 1100 | 1025 | 400 | 2600 | 200 | 2600 | 300 |
| Sodium benzoate. | 100 | 20 | 100 | 65 | 86 | ... | .... | 50 |

Comparative effects of benzoic acid and sodium benzoate on the development of anthrax bacteria. The numbers indicate the dilution in which one part of the substance is effective.

| | (Lacroix) Prevents. | (Brunton) Hinders. | (Brunton) Kills. |
|---|---|---|---|
| Benzoic acid......... | 2800 | 2000 | 400 |
| Sodium benzoate..... | .... | 200 | ... |

Lehmann[3] quotes Fleck as saying that the inhibiting power of benzoic acid on yeast fermentation decreases with increase of associated protein. Lehmann states, on the basis of his own experiments, that in the presence of relatively large quantities of albumin, or where the reaction is alkaline, neutral, or weakly acid, sodium benzoate is not a good preservative.

In Doepner's experiments,[4] physiologic salt solutions, *containing* also, respectively, 1 and 2 per cent. of sodium benzoate, were inoculated with *B. enteritidis* and stored in a *refrigerator*. Samples of these solutions were withdrawn from time to time and smeared on slant agar. The tests showed, after forty-eight hours, that there had been neither destruction of the bacteria nor any retardation of their growth. Similar tests at *room temperature,* however, with solutions containing 0.5 per cent. or 1 per cent. of sodium benzoate, gave evidence of a slight retardation of growth of this bacterium.

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* From the Laboratory of Biological Chemistry of Columbia University, *at the College of Physicians and Surgeons.* This paper was read by invitation before the Society for *Experimental* Biology and Medicine, May 26, 1909 (Proceedings—abstract—1909, vi, 122); also before the Association of State and National Food and Dairy Departments in Denver, Aug. 26, 1909.

* Because of limitation of space, this article is here abbreviated by the condensation of *several tables* and the omission of others. All the tables appear in full in the author's *reprints.*

[1] Brunton: *Text-Book of Pharmacology,* Therapeutics and Materia Medica, London, 1878, Ed. 3, p. 78.

[2] Ordinary commercial sodium benzoate ($C_6H_5COONa$, $H_2O$) contains about 75 per cent. of the radical of *benzoic acid* ($C_6H_5COO$—), but whereas 1 part of benzoic acid in 2,100 parts *of water arrests the action of emulsin, 21 parts of sodium benzoate must be present in a like volume to* produce the same effect. A similar subordinate relation to benzoic acid *is shown by* sodium benzoate when comparative toxicity to other enzymes and bacteria is considered.

[3] Lehmann: Chem. Ztg., 1908, xxxii, 949.

[4] Doepner: Aerztliche Sachverst.-Ztg., 1909, xiii, 501.

Fleck found that benzoic acid, in concentration equal to 0.6 or 0.7 per cent., caused marked inhibition of yeast fermentation, and that the arresting action was materially diminished by an increase in the amount of protein present. Lehmann observed that meat extract putrefied in the presence of 1 per cent. to 2 per cent. of sodium benzoate, but that a smaller proportion of benzoic acid was more strongly antiputrefactive in its action when the reaction of the extract was markedly acid. He also found that the action of benzoate under strongly acid conditions was practically the same as that of an equivalent amount of benzoic acid, but that it was diminished with decrease of the associated acidity.

### EXPERIMENTAL

About a year ago I observed that, although no irritating effect was produced in the mouth, throat, esophagus, stomach or intestines by certain proportions of sodium benzoate when taken in cold, fresh milk, on the other hand, a very pronounced action followed the ingestion of the same proportions of that substance in warm tomato soup. The observations were made during a lengthy series of experiments in which I took sodium benzoate in milk at meal time. I drank the benzoated milk intermittently during the meals.

Pure sodium benzoate has a sweet, non-irritating taste, and, when added to fresh milk, imparts to the milk a sweet, bland taste, which is not rendered disagreeable by amounts of sodium benzoate equal to from 3 to 4 per cent. I have observed, however, that even very small proportions of sodium benzoate, e. g., 0.1 per cent. to 0.2 per cent. induce a decided effect on the flavor of warm tomato soup. Thus, in such soup, these slight proportions of sodium benzoate produce the burning, acrid irritation, specially noticeable in the posterior part of the buccal cavity, characteristic of benzoic acid. Sometimes even smaller proportions produce, in specially susceptible subjects, the sensation and effects of benzoic acid, such as burning in the esophagus and stomach, followed by nausea, gastric pain, cutaneous warmth, fulness of the head and muscular weakness. This is especially true when the benzoate is taken in warm, strongly acid, fruit juices or extracts.

These and similar observations led me to endeavor to answer the following questions:

1. Is benzoic acid toxic?
2. Is sodium benzoate toxic?
3. What is the degree of antiseptic action or toxicity of sodium benzoate, as a vehicle for benzoic acid, when the benzoic acid is liberated from it and allowed to act in the free state?
4. Has sodium benzoate an undesirable effect when consumed in fruits or other acid foodstuffs commercially preserved with sodium benzoate?
5. What are the influences of various diets on the effects of benzoic acid and sodium benzoate?

### I. EFFECTS ON MICRO-ORGANISMS

#### *1. Influence on the Fermentation of Fruit and Vegetable Juices*

About fifty samples of juice from various fruits and vegetables were obtained and treated as follows: The material to be examined was reduced to a pulp, the juice was expressed from half (A) of the mass and filtered. Specimens of this juice (50 c.c.) were placed in beakers (usually 4 to 14). To each of half the number of samples in a set (a) was added 0.5 gm. of sodium benzoate (1 per cent.).[5] The mixtures were thoroughly stirred and set aside, uncovered, on a shelf in the laboratory. The remaining samples in each set (b) were used as controls. The unfiltered juice from half (B) of the original pulp in each case was subjected to the same treatment as that given the filtered half (A, a and b).

Tomatoes, apples, oranges, plums, lemons and carrots were used, with the following results: *Unpreserved* pulp, from each of the sources indicated, spoiled in from twenty-four to forty-eight hours, as was shown by discolorations and the presence of mold colonies. The unfiltered and unpreserved juices tended to spoil more promptly than did the corresponding filtered juices. Molds soon appeared on the surface of the unpreserved filtered juices as well as on the pulps and unfiltered juices; at first as a delicate, whitish growth, but later as a heavy olive-green, felt-like mass. The mold seemed to consist chiefly of *Penicillium*. In the *preserved* specimens clear, shining crystals, found to be benzoic acid, separated on the surfaces of the juices with the strongest acid reactions and in the substance, as well as on the surface, of the pulp specimens. *No mold or discoloration* occurred in the preserved specimens by the end of twenty days.

Specimens of carrot-pulp, which were neutralized with sodium carbonate, spoiled within twenty-four hours, despite the presence of 1 per cent. of sodium benzoate.

Special experiments were conducted to determine the action of sodium benzoate on the fermentation of apple-juice. Pure apple-juice ferments markedly within thirty-six hours, under ordinary conditions of exposure. Five liters of pure apple-juice, to which had been added sodium benzoate to the amount of 0.1 per cent. and cane-sugar to the proportion of 1 per cent., did not seem to ferment before the twenty-sixth day. The evolution of carbon dioxid continued slowly after the twenty-sixth day for two weeks. Several months thereafter the juice was sour, tasted slightly of benzoic acid, but was not appreciably alcoholic.

Pure apple-juice, treated with sodium benzoate to the amount of 0.1 per cent. and kept in uncovered beakers, developed mold in five to nine days. Under the same conditions, commercial preserved apple-juice failed to develop mold or become turbid.

#### *2. Influence on the Fermentation of Milk*

Fifteen 50 c.c. samples of a given supply of fresh milk were placed in as many beakers.

Samples 1 to 6 were set aside, untreated and uncovered, on a shelf in the laboratory. Each of these six specimens became quite thick in twenty-six hours, contained bubbles of gas and tasted sour. At the end of twenty-eight hours, to one of these sour samples 0.5 gm. of sodium benzoate were added. The sour taste disappeared, but a slight taste of benzoic acid was distinguishable after the mixture had been thoroughly stirred. The sodium benzoate taste was also marked. At the end of seven days no mold had appeared on this specimen, which, at that time, also tasted of both benzoate and benzoic acid. The five remaining unpreserved specimens were moldy at the end of forty-eight hours. By the end of the third day a mixture of reddish and greenish felt-like molds had grown on the surfaces of the unpreserved milk specimens. At the end of nine days the heavy felt-like layer was removed. The clabber below tasted sour.

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[5] Dr. Hortvet, State Chemist of Minnesota (Rep. of Chemist, Dairy and Food Dept., Minnesota, 1908; *from Twelfth Biennial Report of the Commissioner*, 1909, p. 23), found that out of 33 samples of acid commercial foodstuffs examined, none were free from sodium benzoate. In 29 of the specimens the amount of contained benzoate ranged between 0.10 and 0.67 *per cent.* In four the amounts of sodium benzoate were 0.06-0.09 per cent.

Samples 7 to 11 were treated with 0.5 gm. of sodium benzoate in each case (1 per cent.) and allowed to stand under conditions identical with those to which Samples 1 to 6 were subjected. They had the characteristic taste of sodium benzoate, but no taste of benzoic acid was apparent until after the lapse of twenty-four hours. The samples then began to develop a benzoic acid taste. At the end of ten days they had not thickened, but appeared to be more fluid than they were originally. At that time the fat had separated out in a solid cake on the surface, but no mold had appeared on any of the samples, which tasted *slightly* of benzoic acid and strongly of benzoate. The sweetish taste was followed by a burning sensation ten to twenty seconds after the material had been swallowed.

To Sample 12 was added 5 c.c. of litmus solution, 10 c.c. of very dilute ammonium hydroxid, and 0.5 gm. of sodium benzoate. It was allowed to stand with the other samples. It remained neutral throughout the first day. When the specimen was observed on the second day it was acid in reaction and tasted of benzoic acid. It did not thicken or get moldy.

To Sample 13 was added 0.5 gm. of litmus, 2 c.c. of 5 per cent. sodium carbonate solution and 0.5 gm. of sodium benzoate. It was allowed to stand with the other samples. It became acid in twenty-four hours. The fat cake on the surface of the specimen was red. The samples did not thicken, but a heavy mold developed, although the taste of the benzoic acid was noticeable.

Sample 14, to which powdered litmus was added, became sour in twenty-four hours under the external conditions to which all the samples of the series were subjected. Clabber formed in forty-eight hours, and there was a heavy growth of mold on the sixth day.

Sample 15, to which 5 c.c. of 0.5 per cent. sodium carbonate was added, became acid on the second day, but did not thicken. A cake of fat formed on top and a slight growth of mold appeared on the sixth day; heavy mold developed later.

In similar experiments on 30 samples of various kinds of fresh milk, e. g., certified, pasteurized, kosher, and plain market milk, the above observations have been confirmed.

One specimen of pasteurized milk, containing 1 per cent. of sodium benzoate and kept at room temperature, thickened on the seventeenth day. One such preserved specimen kept in a refrigerator developed mold on the eleventh day. One milk specimen containing 1 per cent. of sodium benzoate, and placed in a refrigerator, did not develop the taste of benzoic acid in seventeen days, but had a sweetish taste and smelled putrid.

### 3. *The Action of Free Benzoic Acid on Fresh Milk*

When 1 per cent. of benzoic acid is present in fresh milk, thickening of the specimens is delayed very little, if at all. It was observed that, in a very short time after such proportions of benzoic acid were mixed with fresh milk, all taste of benzoic acid disappeared, the specimens assuming a modified benzoate taste, which persisted until a few hours before the general thickening occurred, when the benzoic acid taste again became evident. It seems probable that some constituent or constituents of the milk are capable of combining with free benzoic acid and thus preventing the irritating action of benzoic acid on the mucous membranes of the alimentary tract, as well as modifying its taste, when swallowed in milk. The proteins, as well as the alkaline phosphates, may have this property. An inquiry into this matter was made in the following experiment:

Into each of twelve test-tubes 10 c.c. of sweet milk was poured, and 0.01 gm. of sodium benzoate (0.1 per cent.) was then added to each of ten of these portions of milk. Decreasing amounts of benzoic acid were then added to seven of these mixtures. The twelve tubes then contained the following:

| Tube No. | Benzoate. | *Benzoic* Acid. | Tube. No. | Benzoate. | *Benzoic* Acid. |
|---|---|---|---|---|---|
| | Gm. | Gm. | | Gm. | Gm. |
| 1 | 0.01 | 1.0 | 7 | 0.01 | 0.05 |
| 2 | *0.01* | 0.8 | 8 | 0.01 | none |
| 3 | 0.01 | 0.6 | 9 | 0.01 | none |
| 4 | 0.01 | 0.4 | 10 | 0.01 | none |
| 5 | 0.01 | 0.2 | 11 | none | none |
| 6 | 0.01 | 0.1 | 12 | none | none |

The time of precipitation and thickening are indicated in Table 2, from which it is evident that sodium benzoate tends to delay coagulation. The data in that table also show that benzoic acid tends to counteract the retardation of coagulation in proportion to the amount added, and even to hasten the thickening of milk when added in large amounts. It was noted that Sample 1 tasted of benzoic acid throughout the experiment; Sample 2 developed that taste on the second day; Samples 3, 4, 5 and 6 had a very slight taste of benzoic acid on the second day as well as a strong taste of sodium benzoate; while Samples 7, 8, 9 and 10 tasted only of benzoate, and Samples 11 and 12 (controls) had the ordinary taste and souring set in at the usual period.

From these and the previously mentioned results it may be concluded that one or more constituents of milk have the power of combining with relatively large amounts of benzoic acid, detoxifying it so as to render it comparatively non-inhibiting to the lactic acid ferment (?) and non-irritating to mucous membrane, until the fermentation acidity is developed to a strength sufficient to enforce the presence of free benzoic acid.

## II. EFFECTS ON MEN

### 1. *Influence When Administered in Acid Fruit-Juices, Vegetables, and Milk*

Samples of milk and of the pulp of tomato (warm and cold), orange, lemon, apple, plum and carrot, containing 1 per cent. of sodium benzoate, were tasted by fourteen different persons. Not more than 0.1 gm. of benzoate was taken at a time in this way in about three tests per day. Each subject noted a distinctly acid, astringent, irritating taste. In one subject, suffering from coryza, there was an increase of the nasal secretion, accompanied by lacrimation and coughing. In most cases there was belching and passage of gas by rectum. In one subject who had been suffering from a gastro-intestinal derangement for several days these effects were especially marked. The sodium-benzoated material caused slight nausea accompanied by abdominal uneasiness for four hours in one individual. This subject, a man of scientific training and experience, pronounced the material (orange-juice containing 1 per cent. of sodium benzoate) "vicious stuff." Only one test could be obtained on this subject. It was noted throughout these tests that the irritating effect varied with the degree of acidity of the vegetable product.

The observed effects on taste may be summarized as follows: Acid fruit-juices containing 1 per cent. of sodium benzoate had a biting taste, an effect due to liberated benzoic acid. Milk or vegetables rendered alkaline and treated with sodium benzoate (1 per cent.) did not taste of benzoic acid at any time during the first twenty-four hours after the treatment, but after about twenty-four hours acid fermentation began, in spite of the presence of 1 per cent. of sodium benzoate, and the mixtures tasted slightly of benzoic acid. In samples of carrot-pulp the stinging taste of benzoic acid was not so evident as with the more highly acid materials. Small volumes of orange-juice (1 c.c. at a time), containing 1 per cent. of added sodium benzoate, caused burning in the posterior part of the mouth, the throat, the esophagus and stomach.

Apple-juice to which a *small* amount of sodium benzoate is added becomes sweeter but astringent and stinging to the taste and irritating to the mucous membranes. The presence of 0.5 per cent. of sodium benzoate renders cider unpalatable, but the presence of 0.1 per cent. may be overlooked by subjects not acquainted with the taste of pure apple-juice.

One subject who had tasted the various fruit and vegetable materials, as well as pure sodium benzoate and benzoic acid, at various times during three days (taking an amount equivalent to about 1 gm. of benzoic acid per twenty-four hours) eliminated urine which, on the third day of the ingestion, contained a trace of albumin. The benzoate ingestions were immediately discontinued. The subject's urine had been examined four times in the previous eight months, twice by several eminent physicians, and the last two times in this laboratory, several days previous to the initial dosage with the benzoate. At all these prior examinations the subject's urine was free from albumin. The subject was a medical student. There was no reason to suspect that he had had any kidney trouble previous to the sampling of the benzoate. Several days after discontinuing the ingestion of benzoate the albumin disappeared from the subject's urine.

After repeatedly ingesting small amounts of fruit-pulps treated with sodium benzoate (1 per cent.) two subjects experienced fulness of the head, headache, a feeling of fatigue and depression. The samples were taken into empty stomachs. The data show that in the majority of fourteen subjects benzoic acid, liberated from sodium benzoate by acid fruits and vegetables (and contained in them), was sufficiently irritating to cause considerable gastro-intestinal disturbances, as well as general systemic symptoms, even when taken in minute amounts, and especially on a stomach containing but little else than the ingested benzoated materials.

These preliminary observations were followed by an effort to determine some of the possible effects of food products preserved with benzoate as allowed by law[7] and as customarily consumed, e. g., *cider* containing 0.1 to 0.5 per cent. of added sodium benzoate and taken principally between meals.[2]

Cider was used in this part of the study. The quantity of cider generally offered was a volume equal to the average quantity of pure apple-juice consumed within a period of one-half to two hours under normal conditions by the subjects. This "normal" amount was determined by placing freely at the disposal of the subjects 5 gallons of unpreserved, untreated Baldwin apple-juice from cold storage at 32 F., "pressed" and stored one month previous to its use, and which was in a state of perfect preservation. Assistants in this laboratory and various attachés of the college, twenty in number, drank freely of the cider. It was requested of them that a careful record be returned of the amount each consumed. Question-blanks regarding symptoms and effects were filled in by all the subjects and returned on the second day. The average amount of cider taken during an afternoon, often at one time, by men who were busy with their regular work, was 1,200 c.c. Amounts up to 1,500 c.c. were consumed rapidly as a rule, while those who drank as much as 2,500 c.c. usually consumed the total volume in two main portions at intervals of two to three hours.

### *2. The Effects of Pure Apple-Juice*

The cider, 40 gallons of which were used in this investigation,[8] was a bland, acid liquid. It did not produce a stinging sensation in the throat when swallowed.

The pure apple-juice when consumed in volumes larger than 500 c.c. promptly caused considerable diuresis. The specific gravity of the urine was greatly decreased when a liter of pure cider was consumed. Volumes of cider larger than 1,000 c.c. gave in some cases moderate laxative effects. Several subjects who in each case drank 2,000 c.c. experienced no special laxative effects, although this volume usually caused laxation. One subject drank 2,500 c.c., but experienced no laxative effects. Constant diuretic and occasional laxative effects were noted, with probably a slight subsequent improvement in physical condition. The average amount of pure apple-juice consumed (in the second test with pure apple-juice) during three-hour periods by adult males (17 subjects) who had free access to it, was 1,370 c.c. (Table 3).

### *3. The Effects of Benzoated Cider. (A) First Experiment*

Twenty-four subjects were observed in the first experiment. For convenience of publication the tabulation of data has been arranged in groups according to dosage of the subjects. Twelve received pure apple-juice. Twelve received samples of the same apple-juice containing 0.1 per cent. of added sodium benzoate.[8] As none of the subjects knew that they were to receive at that time anything but pure apple-juice, unfavorable psychologic influences were eliminated from the experiments. Each subject received three question-blanks to be filled out by himself daily, so long as any symptoms lasted, which I am assured was done faithfully in all but two instances. The data obtained in the observations are recorded in Tables 4, 5 and 6.

The question as to how much benzoated cider the unsuspecting subjects might be safely permitted to drink was tested carefully on a number of the assistants and

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[7] "Pending the determination by the Referee Board of the wholesomeness or unwholesomeness of benzoate of soda, its use will be allowed under the following restrictions: Benzoate of soda, in quantities not exceeding one-tenth of one per cent. may be added to those foods in which generally heretofore it has been used The addition of benzoate of soda shall be plainly stated on the label of each package of such food." Food Inspection Decision 101, U. S. Dept. Agric., Dec. 26, 1908.

"It having been determined that benzoate of soda mixed with food is not deleterious or poisonous and is not injurious to health, no objection will be raised under the Food and Drugs Act to the use in food of benzoate of soda, provided that each container or package of such food is plainly labeled to show the presence and amount of benzoate of soda." Food Inspection Decision 104, U. S. Dept. Agric., March 3, 1909.

[8] The pure cider used in this experiment had a total free acidity of 2.716 gm. per liter, calculated as acetic acid, and 3.254 gm., calculated as malic acid. Of this pure juice, 100 c.c. yielded to ether 0.002 gm. of sticky extractives. Of an aqueous 0.1 *per* cent. solution of sodium benzoate, 100 c.c. yielded to ether 0.0007 gm. of oily extractive, but 100 c.c. of cider, containing 0.1 per cent. of sodium benzoate, yielded to ether 0.0827 gm. of extractive. The extractive was a white crystalline product. Amounts of benzoic acid (0.847 gm.) equivalent to those in 100 c.c. of cider containing 0.1 per cent. of sodium benzoate, but dissolved in 100 c.c. of water and neutralized with $NaHCO_3$, yielded to ether 0.003 gm. of sticky extractive material.

TABLES 3, 6, 7 AND 9.*—CLINICAL ANALYSIS OF OBSERVED EFFECTS OF APPLE-JUICE: PURE AND ALSO CONTAINING VARIOUS PERCENTAGES OF BENZOATE OF SODA

| Percentage of Benzoate of Soda. | Number of Observations. | Average Body Weight, pounds. | Average Age. | Average Amount of Cider Ingested, c.c. | Taste of Cider. | Average Time Since Last Meal. Hours. | Data Pertaining to the Bowels (Movements). Usually Physicked. | | | | | | | | | Effects On Mouth. | Stomach. | | | | | Head. | | Respiratory Apparatus. | | Skin: Perspiration. | General. | Appetite. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Easily. | Not Easily. | Average Normal Daily Movements. | Total Number. | Solid. (Total No.) | Fluid. (Total No.) | Griping. (Total No.) | Duration of Laxative Effects; hrs. | Flatulence. | | Fulness. | Belching. | Burning. | Nausea. | Vomiting. | Ache. | Fullness. | Cough. | Expectoration. | | | |
| Pure juice (Table 3.) | 25 on 17 subjects. | 145 | 29 | 1370 | Nothing disagreeable. | ¾ | 11 | 5 | 1 1 | 24 | 10 | 13 | 2 | 1-24 | 7 | 0 | 20 | 11 | 0 | 1 | 1 | 1 | 4 | 1 | 1 | 0 | No depression.† | No bad effects.‡ |
| 0 1 (Table 6.) | 22 on 20 subjects. | 145 | 26½ | 1050 | Abnormal. | 2⅓ | 2 | 7 | 1.2 | 28 | 6 | 16 | 7 | 2-24 | 11 | 10 | 16 | 12 | 8 | 7 | 2 | 10 | 13 | 1 | 1 | 11 | General depression, 13. | Decreased, 11. |
| 0.2 to 0.3 (Table 7.) | 6 subjects | 161 | 27½ | 910 | Very abnormal... | 1½ | 3 | 3 | 1.7 | 5 | 0 | 5 | 3 | 0-72 | 4 | 6 | 5 | 4 | 4 | 4 | 0 | 3 | 3 | 0 | 0 | 3 | Irreg. bowels in 1 case for 3 days. | No effect. |
| 0.3 to 0.5 (Table 9.) | 1 subject, H. W. | 150 | 24 | 1000 (0.3%) | Sweet, strong .... | 1 | + | .... | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | + | + | 0 | + | 0 | 0 | 0 | 0 | 0 | + | | |
| | 1 subject, D. R. L. | 140 | 28 | 1000 (0.5%) | Astringent | ¾ | + | .... | 1 | 0 | 0 | 0 | 0 | 0 | 0 | Burning. | + | + | + | + | 0 | + | + | 0 | 0 | + | Tremor | Lost. |

* Tables 3, 6 and 7 are given in abstract, and Table 9 in full. The sign + means "present" or "yes."

† Without exception each subject noted a very considerable increase in the secretion of urine, commencing in one-half or three-quarters of an hour after drinking the apple-juice.

‡ One subject was suffering from influenza before the experiment was commenced. The nausea, vomiting and headache recorded in the table were experienced on the second day but were possibly the result of the influenza.

TABLES 4, 5, 8 AND 10.*—CLINICAL ANALYSIS OF OBSERVED EFFECTS OF APPLE-JUICE: PURE AND ALSO CONTAINING VARIOUS PERCENTAGES OF BENZOATE OF SODA

| Percentage of Benzoate Added. | Number of Observations. | Average Weight, lbs. | Time Since Last Meal. Hours. | Volume of Cider Ingested. c.c. | Dose of Benzoate, gm. | Character of Effect on Bowels. | Perspiration. | General Clinical Observations. Blood-Pressure, mm. Hg. | | Pulse. | | Temperature. | | Urine. Volume After. c.c. | Color. | | Specific Gravity. | | Albumin. | | Reduction of Fehling Solution. | | Amount of Indican. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Before. | After. | Before. | After. | Before. | After. | | Before. | After. | Before. | After. | Before. | After. | Before. | After. | Before. | After. |
| None (Table 4). | 10 | 142 | 2.25 | 1240 | 0 | Laxative (4 cases). No effect (6 cases). | 0 | 131 | 126 | 89.5 | 90.5 | 97.7 | 97.5 | 7 subjects, 3 hours; 402.8. | ........ | Marked decrease in color. | 1021 | 1011 | 1; trace. | 0 | 0 | 0 | ........ | Amount decreased. |
| 0.1 (Table 5.) | 19 | 146 | 2.1 | 1120 | 1.13 | Marked irregularity. Diarrhea or constipation. | 8 | 117 | 116 | 93.0 | 90.0 | 97.5 | 97.5 | Average of 14 who had no laxative effect, 3 hrs., 259. | ........ | Decrease in color not marked. | 1020 | 1019 | 2; trace. | 6; trace.<br>1; heavy. | 4: slight. | 5; slight.<br>7; marked. | 7: slight.<br>1: moderate. | 5; slight.<br>1; less.<br>1; increased. |
| 0.2—0.3 (Table 8.) | 6 | 161 | 1.5 | 940 | 2.5 | No effect, (3 cases). Loose (2 ca.). Constipated (1 case). | Slight, 1. Marked, 2. | 115 | 108 | 86.0 | 89.0 | 97.8 | 97.5 | 122.7 | ........ | Increased. | 1019 | 1027 | 1‡ | 6; trace. | 2; slight. | 6 | 1 | 3 |
| 0 3 to 0.5 (Table 10.) | 1 subject, H. W. | 150 | 1 | 1000 (0.3%) | 3 | No effect. | Slight. | 150 | 125 | 106 | 96.0 | 98.8 | 98.8 | 3 hours; 550. | Amber. | Decreased. | 1024 | 1009 | Faint trace. | Marked. | 0 | 0 | Positive. | 6** |
| | 1 subject, D. R. L. | 140 | 0 75 | 100 (0.5%) | 5 | Irritation next day. | Yes. .... | 120 | 100 | 78 | 66.0 | 98.3 | 96.8 | 3 hours; 110. | Amber. | Increased. | 1027 | 1030 | 0 | 0 | Slight. | Very marked. | 0 | 0 |

* Tables 4, 5 and 8 are given in abstract, and Table 10 in full.

† In this subject there was persistently abnormal thirst, and excretion of urine. Repeated examination failed to reveal the presence of any sugar.

‡ The one subject showing albumin in his urine before the inauguration of this test had been a subject two months previously in an experiment in which cider containing only 0.1 per cent. of sodium benzoate was administered. No albumin had been detected in his urine immediately after that experiment.

** H. W. has had polyuria for years. The volume and specific gravity of his urine is exceptional.

tion, have given me special assistance in various ways. I am also indebted to Drs. A. E. Olpp and Matthew Steel and Messrs. Herzfeld and Bisch for coöperation and to Drs. Foster, Mosenthal and Rosenbloom for assistance. Professor Gies has given me all the facilities of his laboratory for conducting this research, as well as valuable criticism and suggestions.

Note.—In addition to the authorities previously cited, the following authors have published facts of interest on the subject:

Astolfoni: Arch. internat. de pharm. et de therap., 1905, xiv, 59. Bull. 88 U. S. Dept. Agric., Bibliography included.

von Fujitani: Arch. internat. de pharm. et de therap., 1905, xiv, 21.

Wiley, H. W.: Bull. 84, U. S. Dept. Agric., Parts 1 to 5.

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# THE SURGICAL ELEVATION OF THE STOMACH IN GASTROPTOSIS BY SUTURE OF THE GASTROHEPATIC OMENTUM

## A FURTHER REPORT OF RESULTS

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The operation of elevation of the stomach to normal position, through either direct suture of the stomach or suture of its ligaments, is a comparatively new one in surgery.

The first description of an operation devised and practiced for this purpose was published by Duret[1] of Lille, France, in 1896. The patient was greatly emaciated and in a condition described as cachectic. The operation was suggested and carried out only as a last resort, it was thought, as the only possible means of saving the patient's life. The description of this surgical procedure attracted no attention, and, although two years afterward, the operation having been performed in March, 1894, the patient had gained 25 pounds in weight and was greatly improved in health, there is no further report of a wider experience by this writer.

In the succeeding fifteen years, up to the present time, as far as can be learned from the literature, the operation has been performed by but few surgeons—Davis, Coffey, Martin, Mayo, Noble, Hodge, Clark, LaPlace and myself in this country, Rövsing in Copenhagen, Hartmann in Paris, Bier and Gelpke in Germany, and Eve in London. With the exception of Rövsing, Bier, Gelpke and myself, the experience of each surgeon has been limited to one, two or three cases. The total number of operations performed and described I have estimated to be not more than 130, and, of these, 75 were performed by Rövsing and 26 by myself.

The operation, designated as gastropexy, which was carried out by Duret, consisted in suturing the stomach at the lesser curvature to the parietal peritoneum just below the xiphoid cartilage. The stomach was thus firmly fixed to the anterior abdominal wall.

Davis[2] in 1897 sutured the gastrohepatic omentum near its attachment to the stomach to the parietal peritoneum of the abdominal wall.

Rövsing[4] in 1899 elevated the stomach by passing three rows of interrupted sutures from right to left through the serosa and muscularis of the anterior wall of the stomach and all the structures of the abdominal wall. The first row was placed just below the line of the lesser curvature of the stomach, the second row 2 cm. below this one, and the third row 3 cm. above the greater curvature. The gastric peritoneal surface between sutures and the parietal peritoneum were scarified. When the sutures were secured a broad surface (6 cm.) of the anterior wall of the stomach was permanently fixed to the anterior abdominal wall near the xiphoid cartilage. Rövsing[5] recently (1906) reports a total of 75 patients operated on by this method. He has modified the operation to the extent that the three rows of sutures are placed closer together, so that the lower one-third of the stomach is left free. In 13 the operation was combined with nephropexy, and in 22 hepatopexy was also performed. He states that without exception these patients have gained good health.

Hartmann[6] described a case in 1899 in which, because of dilatation and vertical dislocation of the stomach, he plicated the pyloric portion of the stomach and then fixed this end of the organ to the parietal peritoneum of the diaphragm beneath the left ribs with the plication sutures.

Coffey[7] (1902) operated in 2 cases of gastroptosis in which he elevated the stomach by suturing the great omentum at a point one inch below its attachment to the transverse colon to the anterior abdominal wall about one inch below the umbilicus.

Gelpke[8] (1906) describes an operation carried out in 7 cases, in 5 of these combined with pyloroplasty, in which the median portion of the anterior wall of the stomach was sutured to the costal margin.

Eve[9] of London (1907) elevated the stomach by attaching the lesser curvature to the surface of the liver at the attachment of the gastrohepatic omentum, combined with the suture of the great omentum to the anterior abdominal wall.

During the years 1897 and 1898 the late Dr. William Pepper and Dr. Alfred Stengel had under their care at the University Hospital a patient suffering with the severe symptoms of gastroptosis, in which every medical and mechanical treatment, including a prolonged rest-cure, had been faithfully applied without benefit. At this time, March, 1898, Dr. Pepper suggested to me that some surgical operation might be undertaken to restore the stomach to normal position in this patient. I was not aware that any surgery (that of Duret and Davis) had been applied in this condition. After a careful investigation of the anatomic relations and ligamentary supports of the stomach on the cadaver, and considering the importance of the preservation of the physiologic mobility of a hollow viscus, particularly the stomach, I devised and practiced for the first time in April, 1898, the following operation:

The patient was placed on the Bolt operating-table in a position opposite to that usually employed for operations through the lower portion of the abdomen. The object of this position was to permit the elevation of the thorax and upper abdomen, which would allow the gravitation and easy displacement of the intestines and stomach out of the field of operation and give the greatest operative space, in order, in other words, to gain the every advantage of the Trendelenburg position. An incision about three inches in length was made through the linea alba, midway between the xiphoid cartilage and umbilicus. This incision exposed the lesser curvature and cardiac end of the stomach, the gastrohepatic ligament or omentum, gastrophrenic ligament and the right lobe of the liver. The table was then elevated to the Trendelenburg position and the stomach displaced further downward and out of the wound by means of gauze sponges. This act caused the gastrohepatic omentum to be slightly stretched and separated from the underlying structures, which permitted an accurate determination of the length of the omentum and very much facilitated the operative manipulations. The gastrohepatic ligament was found to be composed of the two layers of delicate peritoneum, increasing in thickness and strength toward the right or pyloric end of the stomach, and above at the attachment of the liver. The gastrophrenic ligament appeared as a few thin connective tissue bands supporting the cardiac end of the stomach. Retractors were introduced and the liver held aside by placing a flat gauze sponge beneath a retractor. Three rows of interrupted silk sutures were then introduced so as to plicate and thus shorten the gastrohepatic omentum in the following manner: The first row, beginning in the gastrophrenic ligament and extending across the gastrohepatic ligament to a point almost opposite the pylorus or hepaticoduodenal ligament, was introduced so as to form a plication in the center of these ligaments, and included from above downward or vertically about 4 cm. of tissue. They were small mattress sutures including sufficient of the delicate tissue, gathering the tissue up in the grasp of the curved needle, where no blood-vessels were present, to insure against their tearing out. Four or five sutures, about one inch apart, were introduced from right to left and caught in a hemostatic forceps. The second and third row of sutures were introduced in a similar manner, the third row including the tissue of the ligament near the attachment to the liver above, and below grasping the tissue just above the blood-vessels of the lesser curvature of the stomach. The sutures were strictly confined to the normal ligamentary supports and the distance between the rows from left to right was increased with the length of the ligament, being greater toward the right. I need not point out that the important blood-vessels in relation with the right border of the ligament are to be carefully avoided, so that they are not injured or constricted in the suturing. The gauze sponges were then removed, the stomach brought into the wound and carried upward toward the diaphragm as the first, second and third row of sutures were tied. The stomach, particularly the pyloric end, was thus elevated to about normal position. If, after the sutures were secured, there remained any portion of the stomach abnormally low or there was a depression or kink along the lesser curvature, this was corrected by an additional suture. The abdomen was then closed by the layer suture method, combined with two or three silkworm gut through-and-through sutures.

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[1] Duret: Rev. de chir., 1896, p. 430.

[2] Davis: West. Med. Rev., October, 1897, p. 291.

[4] Rövsing: Arch. f. klin. Chir., 1899, lx, 812.

[5] Rövsing: Samml. klin. Vortr. Leipsic, 1906, New Series, xv, No. 431.

[6] Hartmann: Bull. et mém. Soc. de Chir., Paris, April, 1899.

[7] Coffey: Philadelphia Med. Jour., Oct. 11, 1902.

[8] Gelpke: Arch. f. klin. Chir., Berlin, 1906, lxxx, 1021.

[9] Eve: Brit. Med. Jour., London, 1906, i, 784-786.

The plan of operation described is that followed in the early cases in which I have operated, with the belief that it was necessary, in order to gain a broad surface of adhesion and a strong support, so as to prevent cutting out of the sutures and a recurrence of the displacement, that the ligaments be shortened by folding on themselves and that they be secured with three rows of sutures. With growing experience, however, I have very much simplified the operation in the last eighteen cases by introducing but a single row of sutures from above downward across the gastrohepatic omentum. The strength of the suture support and attachment above has been increased by introducing each suture through the distinctly thicker and stronger one-fourth of tissue forming the attachment of the ligament to the liver. The gastrohepatic ligament at the attachment to the liver for a distance of one-fourth to one-half inch is found formed into a strong, white connective tissue band, a structure holding the suture without danger of cutting out and forming a fixed point above against which to draw the lesser curvature of the stomach.

The first suture is introduced, beginning above, in the strong tissue of the attachment of the ligament to the liver, that described, the needle including considerable tissue, and then grasps the more delicate tissue at short intervals from above downward until a position just above the gastric vessels is reached at the lesser curvature. Four to six such sutures are inserted in this manner, being perhaps an inch apart.

The suturing toward the right, opposite particularly the prolapsed pyloric end of the stomach, is carried as low and as high in the liagment as is possible, well avoiding the vessels and ducts at the right border, so as to insure the greatest elevation where it is most indicated.

When these sutures are secured the stomach, the lesser curvature, is carried in contact or almost in contact with the under surface of the liver at the attachment of the gastrohepatic ligament and is firmly fixed in this position. It is apparent to the operator at the termination of the operation that it would require considerable tearing force to displace the organ again and it is evident that a recurrence of the ptosis cannot occur.

The modification also secures a much higher position of the stomach than was possible by the original plan of suturing. I seek to have the greater curvature of the stomach above the umbilicus, at the point as demonstrated by the *x*-ray in the normal position of the stomach.

The operation is easily accomplished in twenty to thirty minutes, and in no instance has been associated with any degree of shock. There have been no deaths or complications following. The convalescence is easy, the patients being particularly free from nausea and vomiting, and the suffering is not greater than after a simple exploratory celiotomy. The bowels are opened at the end of forty-eight hours by enema. The patient is kept on small amount of liquid food for two or three days, then given semiliquid food and quickly solid food. He is confined to bed in the recumbent position for two weeks.

The principle of this operation is that by placing interrupted sutures from above downward through the gastrohepatic omentum, or gastrohepatic and gastrophrenic ligaments, the normal ligamentary supports of the stomach are shortened and the stomach elevated to normal position without in the least disturbing the physiologic mobility of the organ. With the elevation of the stomach any ptosis of the transverse colon is likewise corrected to a considerable—I believe sufficient—extent.

A report of the first operation performed by this method was made before the Fellows of the College of Physicians of Philadelphia by Dr. Alfred Stengel and myself on April 5, 1899. I published accounts of further experience[10] in February, 1903, and October, 1904.

Since the description of my first case Bier[11] of Greifswald, Germany, has reported four cases in which the operation was done in a somewhat similar manner. Three or four sutures were placed through the gastrohepatic ligament from left to right so as to form two plications, one above the other, in the ligament. The first suture attached the serosa and muscularis of the pyloric end of the stomach, at the lesser curvature, to the capsule of the liver, the other included only the ligament. Also, in two of the cases the shortening of the gastrohepatic ligament was supplemented by the passing of two sutures through the serosa of the lesser curvature of the stomach and then through the capsule of the left lobe of the liver.

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[10] Beyea: Univ. Penn. Med. Bull., February, 1903; Am. Med., 1904, viii, 629-634.

[11] Bier: Deutsch. Ztschr. f. Chir., 1900, lvi, 374.

In the operation of Duret, Rövsing and Gelpke the stomach was firmly fixed to the anterior abdominal wall by the passing of sutures through the serosa and muscularis of the stomach and the various layers of the abdominal wall. The fixation of the stomach to the anterior abdominal wall by adhesion, particularly to the extent practiced by Rövsing, would seem, at least in part, to destroy or hinder the physiologic mobility of the organ and result, in a greater or less number of cases, in a disturbance of the function of the organ. Likewise there is the danger of the production of the very painful affection frequently seen associated with adhesions to this organ.

The suturing of the lesser curvature to the liver and the greater curvature to the anterior abdominal wall, as practiced by Eve and LaPlace, is subject to the same criticism. Further, in a patient so operated on who afterward came under my care, pneumonia developed as a postoperative complication, and from the constant coughing a large hernia of the stomach resulted. That the greater curvature of the stomach was anchored to the abdominal wall below the incision, I believe, was an important factor in the production of this ventral hernia.

The operation of Davis, attaching the lesser omentum near the upper curvature of the stomach to the abdominal wall, would seem a better procedure, but the stomach would be distorted and abnormal adhesions formed.

The securing of the greater omentum at a point just below the transverse colon to the anterior abdominal wall one inch above the umbilicus, the operation of Coffey, elevates the stomach to a considerable extent and relieves any dragging on the stomach from below caused by the transverse colon and great omentum. Another point of possible value, according to Sailer and Clark, is that this operation corrects the associated ptosis of the transverse colon, and that it relieves the constipation from which they believe these patients suffer. The operation, however, markedly changes the anatomy of the stomach and transverse colon, and, since an artificial adhesion is formed between the great omentum and anterior abdominal wall, there would be the danger of more extensive adhesions being formed than is planned, involving the transverse colon and stomach and resulting in an incurable condition. Intestinal obstruction is a very possible complication. I am, however, inclined to believe that the operation might be of value and warrantable where there existed extreme hepatoptosis, the liver being so low in position that, although the lesser curvature of the stomach were brought in contact with the under surface of the liver, the stomach would still remain vertical in position and the duodenal kink persist to cause symptoms. Here it would be a more simple operation than any hepatopexy devised.

As to the question of ptosis of the transverse colon causing constipation and necessitating greater elevation of the colon than is gained by bringing the lesser curvature of the stomach in contact with the liver, I have sought information by written communication. I have replies from 23 of the patients operated on. Seven state that they did and 16 that they did not suffer from constipation before operation, and 6 do and 17 do not now suffer from constipation. Therefore, in my experience, constipation has not been a sufficiently prominent symptom to warrant the additional operation, certainly not that of resection of the colon, as is recommended by Clark. I did elevate the colon by this method in one instance, because the patient complained of pain over the prolapsed colon after the stomach had been restored to position. In another case in which marked ptosis of the colon existed, the kink was corrected by simply narrowing the gastrocolic omentum over this area, thus bringing the colon almost in contact with the stomach. I have, however, noted no special advantage of the operation.

Regardless of the theoretical criticisms of the fixation operations, it is to be noted that from the published reports of the operators who have performed them, in a total of 82 cases, no such disturbances of function of the stomach or other complication is mentioned, except in an early case of Rövsing's. Rövsing, now with an experience of 75 cases, 50 of which he has had an opportunity to observe from one to eight years, asserts that none of his patients have after operation had retention of food or have developed a disturbed function of the organ. Nyrop,[12] however, discredits the good results reported by Rövsing, saying he has observed and reported cases in which such adhesions did produce pain. I have had communicated to me verbally the history of one such case in which the patient, because of the fixation operation, became a hopeless invalid. Thus, even with the small amount of data available, it is evident that the forming of adventitious adhesions to a hollow viscus, directly or indirectly, is bad surgery and conducive to harmful results.

The operation I have devised, as I have said, simply shortens the anatomic ligamentary supports of the stomach, elevates the organ to a position where it is in contact with the liver at the point of attachment of the gastrohepatic ligament, and thus the anatomic conditions of normal mobility and physiologic function are completely preserved. The operation must, therefore, be considered anatomically, physiologically and surgically ideal.

Since the report of the first operation in April, 1898, I have operated in 25 additional cases; in all I have performed the operation 26 times. Martin, employing this method, has operated in 5 cases, Noble and William Mayo each 2, and Hodge 1. Martin, in one of his cases, also performed the Coffey operation, and in both of Mayo's cases Finney's pyloroplasty was performed. Including the four cases in which Bier operated, the *operation has been performed 39 times.*

All of the patients coming under my care had suffered with the characteristic and severe symptoms of gastroptosis for from three to fifteen years. In 4 a right prolapsed kidney had been operated on without relief of symptoms, and in 3 cases a floating kidney still exists, not causing symptoms after the reposition of the stomach. Regarding the presence of hepatoptosis I am unable to make any definite statements. Of the last 14 cases the skiagraph showed some ptosis in 10, and in one the descent of the liver was extreme. In this latter case, skiagraphed several months after operation, the stomach was seen with its lesser curvature well up beneath the liver, but still in a prolapsed position because of the hepatoptosis. I believe that more or less hepatoptosis was present in all of my cases. Dr. Henry Pancoast of the *x*-ray department of the University of Pennsylvania, suggesting that the greater part of the *ptosis of the liver is due to a right lateral downward* rotation of this organ, in the last two cases in which we have operated I have sought to correct this by suturing the round and falciform ligaments to the upper end of the abdominal incision, thus carrying the liver upward and toward the left. No second skiagraphs have up to the present time been made in these cases.

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[12] Nyrop: Ann. de chir. Gastro-intest., April, 1907.

Twenty-five of the patients were greatly emaciated, weighing between 77 and 120 pounds. In 16 the upper curvature of the stomach was outlined by means of the skiagraph or by inflation and auscultatory percussion one and a half to two and a half inches below the umbilicus, in 9 three inches below the umbilicus (the stomach reaching well into the pelvis), and in 1 one inch below the umbilicus. The latter was a small tubular stomach, vertical in position, the *x*-ray showing a marked kinking in the duodenum. In three an associated dilatation of the stomach was diagnosed, but, as is common, the dilatation was not appreciable at operation. In two there was a pronounced dilatation of the stomach demonstrable at operation. In none of the cases was there present a diastasis of the recti muscles or great relaxation of the abdominal walls, although seven of the women had borne children. All of the patients operated on suffered from retention and fermentation of food, were chronic invalids and most of them incapacitated for any occupation or social duty. Operation was determined on in every instance only after a long course of medical and mechanical treatment had been carried out by a competent internist and the treatment had failed to give permanent relief. Several had been transferred to the care of an internist for the purpose of giving the medical treatment a thorough trial. In every instance the patient had been treated faithfully with medicine, hygiene, diet, bandaging, binder or a corset, and the majority had had a six weeks' rest cure. They were all willing and anxious because of their suffering to risk the danger of operation for the sake of a possible cure.

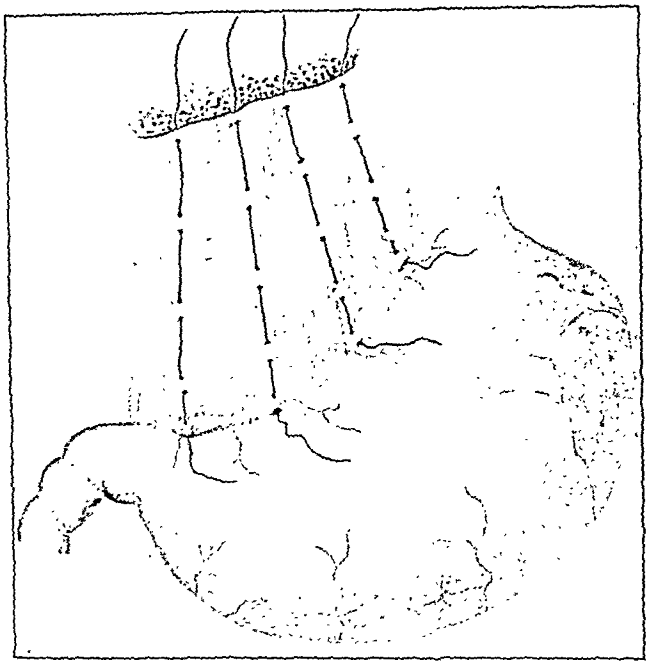
In one instance in which the stomach was prolapsed so that the upper curvature was two inches below the umbilicus and the organ dilated to perhaps twice its normal size the woman was emaciated until she weighed but 77 pounds. Further, she apparently suffered from autointoxication as a result of the gastric and intestinal fermentation process, to such a degree as to produce every two or three weeks a rise of temperature reaching 102 to 103 F. She was in extreme condition, the operation dangerous, but demanded by the family physician. This patient has gained 30 pounds in weight, has become pregnant and borne a child since, all symptoms have disappeared and she enjoys perfect health. Six of the patients were males, one a physician who had given up practice and had devoted several years of his life to seeking relief in various parts of the country.

The 26 patients on whom I have operated have now been observed from four weeks to eleven years. In order to gain an accurate report as to the result of the operation I have recently communicated with these patients by circular letter. A reply was received from all.

In every instance, except Patients 11 and 18 and one patient recently operated on, the improvement in health had been most remarkable and the relief of symptoms complete. The dyspeptic and neurasthenic symptoms are entirely relieved, there is no retention or fermentation of food, and food of any character is taken without restriction. All have gained in weight from 8 to 40 pounds, the average gain in weight being 20 pounds. The gain in weight and state of improved health has been maintained regardless of the time that has elapsed since operation.

Patient 11 was operated on in June, 1907. She immediately gained ten pounds in weight and was relieved of her symptoms. She then relapsed into the old condition, suffering as much as before operation and now practices lavage daily and before going to sleep at night it is necessary that her physician replace a prolapsed right kidney. Preceding operation she was under the care of Dr. John K. Mitchell at the Orthopedic Hospital, who carried out a thorough rest-cure and medical treatment without the least benefit. I had previously refused to operate on this woman, but, it being again suggested by Dr. Mitchell because of the failure of the rest cure, the operation was carried out, although I felt at the time that there was little chance of its giving relief. This also is the case referred to in which there was an extreme hepatoptosis.

Patient 18, operated on in March, 1908, a young man of no occupation, is free from symptoms referable to the stomach and transverse colon, both being elevated, and has gained 10 pounds in weight, but still complains of pain in the lower abdomen. It is his belief that this pain is due to a separation or tearing away of the mesentery of the small intestine, following a severe strain.



Suture of the gastrohepatic omentum to secure elevation of the stomach in gastroptosis.

In Case 4 the patient was markedly benefited for a time, and then after nursing two sisters through a course of typhoid fever became profoundly neurasthenic; after a rest-cure she is again enjoying good health.

These three cases are simply instances in which there exists, associated with the gastroptosis, essential neurasthenia, as occurs with other conditions and disease. The patients are little, if at all, benefited by medical or surgical treatment and are sometimes made much worse by the latter.

The patients operated on by Martin gained from 20 to 30 pounds in weight and are relieved of their previous symptoms. Those operated on by Noble, I am told, are relieved of their symptoms. The patient whose case was described by Hodge I saw a short time ago and she has gained in weight and has good health. The four patients operated on by Bier have all gained in weight, from 11 to 25 pounds, and, he states, enjoy good health.

The immediate and lasting complete relief of symptoms, improvement in nutrition and gain in weight in all but two of the 39 patients operated on by simply shortening the gastrohepatic omentum would prove that the gastric symptoms were induced by the abnormal position of the stomach in gastroptosis, and that the neurasthenia is, as a rule, not an essential but an induced condition. The completeness of relief and remarkable benefit following invalidism which had existed for years in 95 per cent. of the cases, the simplicity of the operation (which restores the stomach to normal position without removal of tissue or the formation of abnormal adhesions) and the fact that it is practically free from danger (we would estimate the danger as not being more than one-fourth of 1 per cent.) must strongly recommend this surgical treatment in every case of gastroptosis in which the suffering is great.

It has been my experience that in no class of cases coming to me for treatment do the patients receive more benefit or are more grateful than those here referred to. The mechanical and medical treatment at best only secures partial relief of symptoms. (The *x*-ray has now positively determined, as stated by Pancoast, Sailer and Worden,[13] that no form of binder, bandage or corset elevates the stomach to the smallest extent.) It entails constant treatment, diet, hygiene and the wearing of a cumbersome bandage or irritating adhesive straps, while the operation promises at once to restore completely and permanently the patient's health.

It is true that the patients thus far operated on represent but one class, those with gastroptosis occurring independent of relaxation of the abdominal walls or diastasis of the recti muscles. Experience alone can teach what influence the operation can have where a relaxation of the abdominal wall is active in the production of the displacement of the stomach. I believe, however, that the new attachment would be sufficiently strong to maintain the organ in normal position and the result would be quite as satisfactory. I do not believe that the operation devised by Webster would be necessary.

In cases in which there exists an associated and even marked dilatation of the stomach, as in two of our cases, the dilatation is dependent on the gastroptosis with kinking of the duodenum and motor insufficiency of the gastric walls, and therefore with the relief of the kink or obstruction through the elevation of the stomach the stomach drains itself, the motor activity is restored and the dilatation must soon disappear. Such is amply proved in my case in which dilatation was extreme, caused autointoxication and the patient after operation gained 30 pounds in weight. The stomach has returned to normal size.

I see no indication for the combination of pyloroplasty with elevation of the stomach or the performance of pyloroplasty alone in gastroptosis, unless there be present a true organic stricture of the pylorus. The operation of gastrojejunostomy as practiced by Walker, Hammer and Deaver I would consider unnecessarily mutilating, dangerous and in no sense indicated in this disease.

I would again call attention to my experience that in performing the operation the stomach cannot be carried too high upward beneath the liver to relieve the duodenal kink and compensate for the coexisting ptosis of the liver.

The operation here described has been subjected to a certain amount of criticism by three writers. It is stated by Rövsing and Eve that the gastrohepatic omentum is such a frail, delicate tissue that sutures cannot be introduced into it, that even though sutures were thus introduced they would cut out and the displacement of the stomach recur, and that the operation therefore is an impracticable one. It likewise appears that Bier, Noble and LaPlace in performing the operation were not satisfied to rely on the simple suture of the gastrohepatic omentum alone, but supplemented the operation by passing sutures between the lesser curvature of the stomach and capsule of the liver, or greater curvature and abdominal wall. The gastrohepatic omentum is thin and delicate; in two of our cases particularly it was very thin, but, as far as my experience goes, in all 26 cases there has been no difficulty in finding sufficiently strong tissue not only to hold the sutures but to make a much more than efficient elevation and attachment of the organ, particularly with the modification here described. As stated, in every instance it would have required much tearing force at the termination of the operation to separate the stomach. A still better proof is the fact that there have been no recurrences.

Rövsing and Deaver have offered the criticism that, because of the presence of numerous blood-vessels, particularly veins, in the gastrohepatic omentum, these vessels would easily be injured or constricted and the operation made a dangerous one. The field of operation is plainly before the operator, the gastrohepatic omentum transparent, and therefore these vessels are readily seen and avoided, and only a very careless operator would endanger the life of his patient through such complication. Also, no important vessel is ever constricted if the operation is carried out with ordinary care.

Finally, I wish to point out that there exists in gastroptosis a physical displacement of a most important organ; the whole cause of the patient's illness results from this mechanical displacement; or in a general visceral ptosis it is the stomach which causes the greater part of the symptoms. The gastromotor insufficiency, the dilatation and their symptoms are the direct result of the malposition of the stomach. The medicinal and mechanical treatments give relief in a large percentage of cases, the severe symptoms disappear and, I might say, the patients are comfortable. This relief is gained by constant careful feeding, regulated rest after taking food or the full rest treatment and the wearing of a bandage or application of adhesive straps. The binder gives relief by increasing the intra-abdominal pressure and not by elevating the stomach. With the removal of the binder, the taking of food of normal amounts and character and the assuming of any occupation, the symptoms gradually return, for the cause of the suffering is in no sense relieved. At least this has been my experience in every instance in which the patient was first referred to an internist for treatment. Therefore, if the suffering of the patient is great, I can only come to the conclusion that the surgical treatment is the only logical one.

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[13] Worden: Tr. Coll. Phys., Philadelphia, 1906, Series 3, xxviii, 151-196.

# SURGICAL TREATMENT OF CHRONIC ARTHRITIS

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In considering the surgical treatment of chronic arthritis it is of prime importance to distinguish the different types of arthritis, because I believe that a remedy which may be very beneficial in one type may be useless in another and even harmful in still another. I believe that much of the confusion and many of the failures can be traced to the lack of careful differentiation. Before the time of the discovery of the pus micro-organisms by Ogston, the tubercle bacilli by Koch and the gonococcus by Neisser this subject was in a chaotic condition, and even now much confusion exists in the minds of most medical men.

Within the limits at my disposal it is manifestly impossible to discuss in detail all the different types of chronic arthritis. I have consequently concluded to pay especial attention in these remarks to a consideration of one of the most common, distressing and fatal types, namely, arthritis deformans. Arthritis deformans is most commonly confused with septic, tuberculous, gonorrheal and syphilitic arthritis, gout, flat-foot and chronic articular rheumatism.

As stated above, in order that we may treat this affection satisfactorily, we must, first of all, have a fairly clear conception of each of these forms of arthritis, so that we may differentiate this particular form from the others in at least the great majority of cases which may present themselves to us.

In septic arthritis the onset is more acute; it is always accompanied by considerable pyrexia, usually with a chill, nausea, vomiting, malaise and severe pain; and, while occasionally several joints are involved simultaneously, the number affected in the end is not so great as in most cases of arthritis deformans. If the infection is due to one of the staphylococci, there is usually marked effusion into the joint, local heat, redness, pain and loss of function. The joint affection is probably always secondary to a primary affection, which can generally be located. There is always a marked leucocytosis.

I mention staphylococcus arthritis because I have had a number of chronic cases in which on aspiration I found staphylococci in pure culture in one or more of the joints, cases which had previously been diagnosed as arthritis deformans by capable observers.

Tuberculous arthritis, while running a chronic course, is distinctly more acute than arthritis deformans, more painful, at the onset accompanied with more fever, usually mono-articular, and, if when the patient first comes for examination several joints are involved, the history will practically always show that a considerable interval existed between the involvements of the different joints. There are other points, such as the von Pirquet cutaneous reaction, opsonic index and many more, which might be cited, but if reasonable care is practiced a mistaken diagnosis between tuberculous arthritis and arthritis deformans should not occur.

With gonorrheal arthritis the danger of a mistake in diagnosis is considerably greater, as I have seen several old cases of gonorrheal arthritis which had been repeatedly diagnosed as arthritis deformans. Gonorrheal arthritis is generally mono-articular, sometimes multiarticular and only rarely panarticular. These latter cases are sometimes confusing, but the history will always bring out the fact that the onset was sudden and severe and that all the joints were involved simultaneously or nearly so. Often a history of gonorrheal infection can be obtained and sometimes the specific micro-organism can still be found on careful search.

I have never seen a case of syphilitic arthritis which could possibly be mistaken for arthritis deformans, but the possibility of such an error is mentioned by several writers, and I believe that on careful examination a sufficient number of unmistakable luetic signs and symptoms, the great number of which I need not cite here, can always be found to make a differential diagnosis between syphilitic arthritis and arthritis deformans. If any doubt exists, a careful course in antiluetic remedies should be instituted before a final diagnosis is made.

Several authors make the statement that gout is sometimes confused with arthritis deformans. If one takes the trouble to get a careful history, this mistake can always be avoided, because in gout we shall always obtain a history of one or more severe acute attacks with intervening periods of complete remission.

While it is true that an abduction deformity simulating flat-foot is often found in the later stages of arthritis deformans, simple flat-foot, no matter how severe, should never be confused with arthritis deformans. I have seen this mistake made several times, but even a superficial knowledge of these two affections should make this error impossible.

The principal source of confusion seems to arise from the fact that even prominent authors and clinicians fail to differentiate between that form of chronic arthritis which develops subsequent to acute articular rheumatism and true arthritis deformans; thus, for instance, Strümpell[1] says that a clear differentiation between the two cannot be made. To this statement I cannot subscribe; on the contrary, I believe that arthritis deformans is a disease as distinct from chronic rheumatism as is syphilis from tuberculosis and as easily distinguished from it. While we shall all agree that it is sometimes impossible to make a differential diagnosis between syphilis and tuberculosis, still we would scarcely describe the two affections in a text-book on internal medicine under the same heading; and yet, I believe, we should be just as much justified in doing this as are the text-book authors who describe chronic rheumatism and arthritis deformans under the same caption.

As stated above, this differentiation is very important because the two types of arthritis respond to entirely different treatment. True chronic articular rheumatism is always secondary to acute articular rheumatism, of which there may have been one or more attacks, each acute attack being ushered in by a severe illness, great pain, pyrexia, swelling, redness and tenderness of the affected joints. The joints to be affected during any one attack are usually all affected at the same time. Arthritis deformans, on the other hand, is insidious in its onset, chronic from its very beginning, as several years may elapse from the appearance of its first symptoms until it causes any considerable degree of disability. Thus, for instance, I have in mind a case in which the first symptoms appeared in 1892 and in which serious symptoms did not appear until 1897 and the disease had not reached its height until 1899.

While arthritis deformans may primarily be limited to one joint and often begins in one or two joints, one joint after another usually becomes involved until all or nearly all of the movable joints of the body are affected.

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[1] Strümpell, Adolf: Lehrbuch der speciellen Pathologie und Therapie, Ed. 15, ii, 517.

At this point I wish to call attention to a fact which will often give the key to the right diagnosis, namely, that within the first two or three years of the disease it is usually possible to find one or more joints just beginning to be affected, others in which the inflammatory process is at its height, and again others that have reached the quiescent or terminal state with its atrophies, exostoses and contractural deformities.

In chronic articular rheumatism are found the final results of an acute and subacute inflammation of the synovial membrane with little involvement of the extra-articular structures, and if deposits occur they are usually found more or less free within the joint capsule. In arthritis deformans the process seems to be largely confined to the joint cartilages and the extra-articular structures, with little, if any, involvement of the synovial membrane. This difference in structural involvement results in the production of two utterly dissimilar, but very characteristic pictures. In arthritis deformans the involvement of the cartilages and the extra-articular structures causes contractures, and the joints become permanently rigid and fixed, as illustrated in Figures 1 and 2. Thus Figure 1 is taken from a case of arthritis deformans of medium degree of severity two years after the beginning of the onset. In three of the joints the process is at its height, while in another the terminal contracture is beginning to develop. Figure 2 is taken from an old case showing these terminal contractures still more fully developed. It will also be noted that [illegible] of these terminal contractures are con- [illegible] hyperextension, a form of contracture which [illegible] seen in a case of chronic articular rheuma- [illegible] represents a case of chronic articular [illegible]

[illegible] this last picture it will be noted that [illegible] re in a position of slight abduction [illegible] d none of the joints in hyperexten- [illegible] l is carefully examined the joints [illegible] he capsular li [illegible] re will be n [illegible] be within [illegible] articul [illegible]

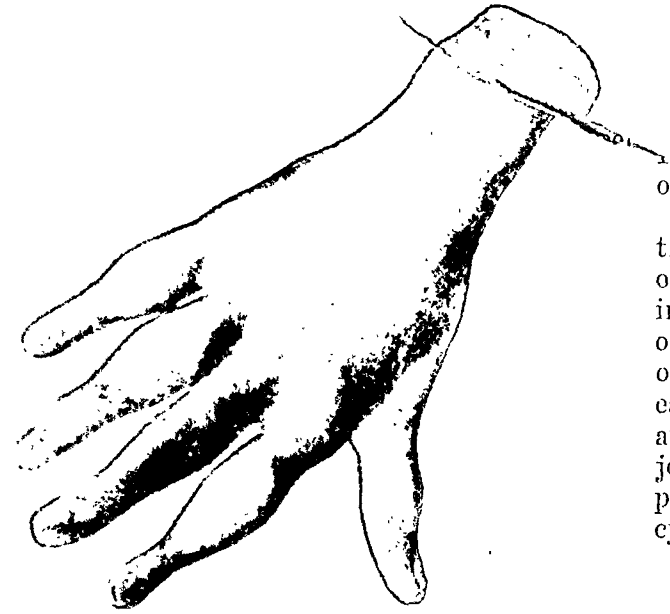

Fig. 1.—Arthritis deformans of medium degree of severity, two years after the beginning of the onset.

hyperemia, while arthritis deformans patients are made markedly worse by these remedies.

The differences in the history of development, the characteristic deformity and the therapeutic test make a differential diagnosis possible in practically every case.

I regret exceedingly that I am unable to furnish absolutely positive proof as to the etiology of arthritis deformans, but I believe that it is the result of long-continued autointoxication as distinguished from single, repeated or long-continued autoinfection, as illustrated by nearly all of the other acute and chronic inflammatory joint affections. In other words, so far as the joint process itself is concerned, I believe that it is a chemical rather than a microbic process. I fully realize that in the present state of our knowledge, or rather lack of knowledge, of *intra-vitam* chemical tissue changes the preceding statement is not susceptible of positive proof. I wish, however, briefly to outline some of the facts and observations and deductions on which my belief is based.

So far as I am able to determine, there are no authentic cases on record in which a specific micro-organism, or, for that matter, any micro-organism has been found in true cases of arthritis deformans. On careful analysis of the reported cases of chronic arthritis in which micro-organisms have been found in the joints it is usually easy to determine that the affection was really not a true arthritis deformans, but one of the other types of chronic joint involvement. So far as I am able to determine, patients with true arthritis deformans never show leucocytosis; they never have marked pyrexia, not even as new joints become involved, unless they are suffering at the same time from some intercurrent febrile affection. There is little, if any, increase in synovial fluid, the swelling being confined almost exclusively to the capsule and periarticular tissues.

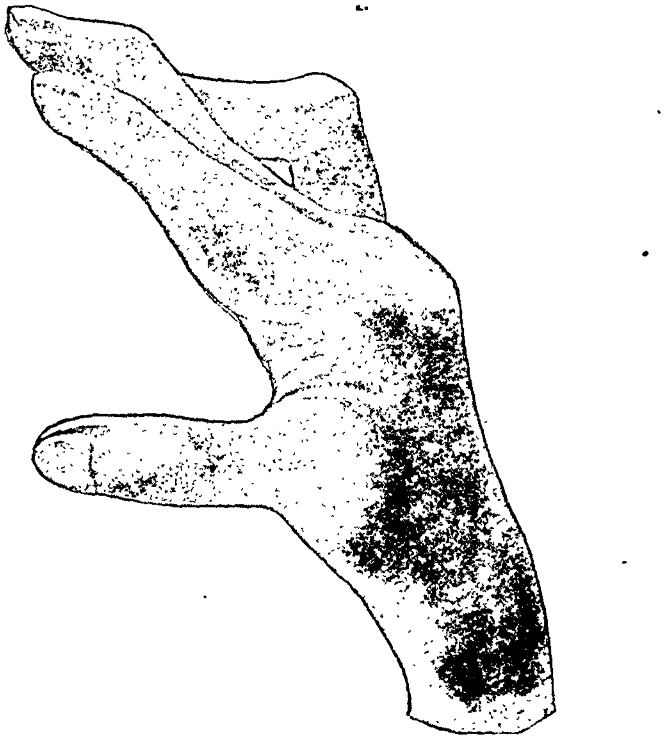

Fig. 2.—Well-advanced arthritis deformans, showing the terminal contractures. Note especially the hyperextension of some of the joints.

The first case that led me to differentiate between a chemical and microbic process was that of a patient who was suffering from very severe hemorrhoids and numerous rectal fissures, who admitted that she rarely had a movement oftener than once a week and frequently went two weeks. For several months she absolutely refused to take a cathartic from dread of the pain which a bowel movement would cause. She finally submitted to an operation, and the material that was found in the rectum at the time of operation and that was subsequently evacuated by the use of cathartics, for foulness and stench beggared all description. I have never seen anything like it since. I also recall three cases of coprostasis due to adhesions from old appendices and one case of beginning arthritis deformans in a case of very badly lacerated, ulcerated and eroded cervix. The three cases of arthritis deformans complicated with chronic appendicitis were very different from acute articular rheumatism following acute appendicitis, as first described by Finney and now familiar to all of us.

To my mind there is absolutely no evidence in favor of the supposition that arthritis deformans is of a nervous origin. The few cases that have come to autopsy and have been subjected to careful microscopic examination show no changes whatever in the nervous system, and, while the great majority of organic nervous diseases, excluding tumors, occur in males, the great majority of cases of arthritis deformans occur in females. These are facts which should surely make us slow in ascribing arthritis deformans to some obscure nervous origin. The repeated statements in text-books that it is probably due to a nervous lesion recalls the fact that for decades past when authors were unable to find any plausible explanation for a disease they were prone to ascribe it to a miasm or to some obscure nervous lesion, and I believe that this supposed nervous origin of arthritis deformans is only a similar superstition.

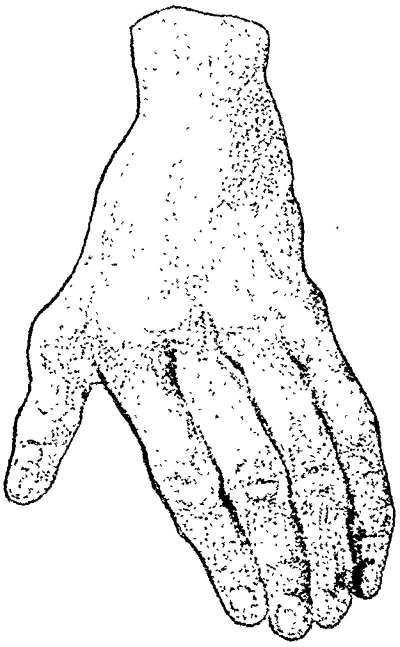

Fig 3.—Well-advanced chronic articular rheumatism.

Even a very superficial consideration of the methods of treatment that have been in vogue in the past brings out some very startling and interesting facts, many of which would be amusing, if they were not pathetic. I will not cite any of the remedies that have been recommended heretofore, because I believe the less one knows about them and the quicker one forgets them, the better it will be for ourselves and our patients. A rather extensive perusal of the literature on arthritis deformans, which, because of the great amount that has been written, must necessarily be incomplete, gives the information that one hundred and twenty-seven different remedies are being recommended for this condition. The number of times that I found each of these remedies advised varied from one to forty-two. Many are only tentatively suggested; again others are very strongly recommended. This is a condition of affairs very similar to that which existed in the treatment of diphtheria prior to the introduction of antitoxin, and the fact that all of these remedies are recommended simultaneously in the literature of a decade is rather strong presumptive proof that none of them are of any real value, because if any one approached a specific in its action the others would soon be discarded entirely.

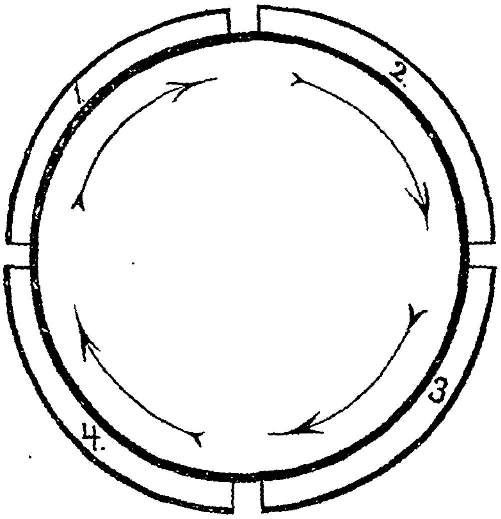

Fig. 4.—Diagram showing graphically the components of the vicious circle.

To me a case of arthritis deformans presents the following picture: We have, to begin with, some factor which causes articular and periarticular irritation. This, in turn, causes more or less constant pain, which results in malnutrition and loss of resistance. If the process is not brought to a halt, this soon results in a vicious circle, which I have tried to illustrate by a schematic drawing (Fig. 4), one factor causing the next until the patient finally becomes so exhausted that she or he becomes a bed-ridden cripple and finally an easy prey to an intercurrent affection. An analysis of the remedies recommended gives the impression that students of this disease have more or less vaguely comprehended the situation, but because of the lack of definite knowledge as to its etiology their attempts to relieve it have been practically futile. Here, as in all other affections, we should make every effort to prevent the development of the disease, and I believe that this is actually being done and many cases of arthritis deformans are being prevented by surgeons all over the country every day when they remove foci of chronic infectional obstruction, thus preventing chronic toxemia.

Next in importance to prophylaxis is the early recognition of the cause and its removal if possible. I now recall three early and yet typical cases of arthritis deformans, the further progress of which was stopped by the prompt removal of offending appendices; two very advanced cases in which the patients were distinctly benefited by the excision of the affected appendices, but in which the disease had advanced so far that only a relative cure was accomplished; one patient suffering from recurrent appendicitis and hemorrhoids, who refused operation and has become progressively worse; one advanced case, the patient suffering with hemorrhoids and anal fissures, in which the disease was arrested and great improvement resulted after the rectal trouble was relieved.

If the case is an advanced one in which the original cause has ceased to be operative or in which we are unable to locate the primary lesion, it becomes necessary to devise some other means by which we can obtain at least partial relief. For a number of years I have made a critical study of this and allied affections, and have treated a number of such cases with what I consider reasonable success. I believe that I am now in a position to outline a plan of treatment which will relieve these patients of their most distressing symptoms, save them from the mental and physical distress of being dependent, bed-ridden invalids and make them comfortable, often self-supporting members of the community.

In analyzing the remedies previously employed one will find that the effort has been made, consciously or unconsciously, to break in on the vicious circle at various points. The right cause not having been found, it was, of course, impossible to destroy the vicious circle at this point, and for this reason also none of the remedies previously recommended seemed able to break the vicious circle at the next point, the point of irritation of the joint itself, so most of the remedies have been directed at the next two points, pain and malnutrition, but, so far as I am able to determine, rarely, if ever, with success. Opium and all of its derivatives and many of the coal-tar preparations have been recommended as anodynes in this affection, but we all know that while certain of these remedies will temporarily relieve distress they all further impair the nutrition and thus make the patient less and less able to bear the subsequent pain; consequently they make the patient worse rather than better and have been generally discarded by the best practitioners, except in the extreme terminal conditions of the disease. Many of the remedies are given with the hope of improving the general nutrition, but it is impossible to improve the nutrition of a patient so long as she is continuously suffering pain. I know of no one thing that more surely reduces the resistance of a patient and prevents improvement in nutrition than does long-continued pain. This fact convinced me that if we could by some natural means—that is, without the use of opiates and other drugs—stop the pain, we could then secure good nutrition and thus break in on the vicious circle and save our patients.

It occurred to me that the one way we could accomplish this was by securing absolute rest of the affected joints, but this was not so easy of accomplishment, because in some of these cases nearly every movable joint sooner or later becomes affected and I have had several late cases in which practically all of them were affected simultaneously. An additional obstacle was the fact that most of these joints are partially ankylosed, with either flexor or extensor deformity with one or the other group of muscles at a distinct mechanical disadvantage, and the mere application of a retention dressing, no matter how secure or rigid, would not relieve the muscle spasm completely so long as this deformity was allowed to persist. During my work with tuberculous joints I discovered that the relief of pain in an inflamed joint involved the recognition of two separate and distinct principles: first, the application of an absolutely rigid, close-fitting retention dressing; second, the application of this dressing with the limb in such a position that the antagonistic muscles surrounding the joints are in absolute equilibrium, so that the extensors shall have no mechanical advantage over the flexors nor the abductors over the adductors. If this ideal position is secured by absolute immobilization, pain in any chronically inflamed joint will cease from within a few hours to a week. The treatment of these old cases of arthritis deformans in which the above vicious circle has been fully established and in which the primary cause can either not be found or has become non-operative (as I believe it has in many cases), practically resolves itself into the relief of pain by natural means without the use of opiates and other drugs, and consists in the application of a snug, firm, absolutely immobilizing retention dressing with the antagonistic muscles at equilibrium. If the contractures are very pronounced and the limb or limbs cannot be brought into the desired position without causing extreme pain, the patient is anesthetized, the contractures broken up, and if necessary the tendons lengthened by tendoplasty, the limbs placed in plaster-of-Paris dressings in the desired position and allowed to remain there until the pain and irritation have entirely subsided.

If it has been necessary to use a great deal of force or to do an open operation a plaster-of-Paris mold is applied over cotton. When the reaction has subsided or the wound has healed, a new plaster-of-Paris mold reinforced with basket splints and wheat gluten bandages is applied over stockinet. In this manner a splint can readily be constructed so that it will be comfortable, absolutely rigid, light and durable, the four essentials in a retention dressing of this kind.

For immobilizing the joints of the upper extremity a small pad is placed in the axilla and a shoulder-cap applied; this is fastened to the chest with a soft roller bandage. The elbow is placed at a little less than a right angle, the forearm rotated inward slightly, so that the anterior surface looks directly toward the body, the thumb slightly extended, the fingers held perfectly straight and a mold applied in this position. For immobilizing the hip I use a plaster-of-Paris spica extending from the umbilicus to the pubis and to within an inch above the knee with the thigh abducted 10°, ventral flexion 5°. The knee is immobilized at an angle of 175° and the ankle at 85°.

The above-described positions are chosen because they are the ones which secure muscle equilibrium and fortunately at the same time are also the positions giving the muscles the best opportunity subsequently to limber up the joints and in case any of the joints should be permanently ankylosed it leaves the limbs in the most useful position.

What now is the prognosis of these cases thus treated as compared with the prognosis in the past? So far as I am able to determine, patients with true arthritis deformans treated by the usual methods in vogue in the past have generally become progressively worse, so that they have become bed-ridden invalids in from three to seven years after the onset of the disease. During all of this time they have suffered a great deal of pain; a considerable part of the time they have been unable to support themselves, and the last year or more they have required the constant personal care and attention of one or two attendants. When they once become bed-ridden they become utterly helpless, require at least one personal attendant and are either a great financial burden to their relatives or to the community. If the treatment above outlined is instituted early, if the cause can be found and removed, this unfortunate condition can often be prevented, as the following brief history will illustrate:

CASE 1.—On March 14, 1907, a woman, aged 47, presented herself suffering from beginning arthritis deformans which began with an involvement of the proximal phalangeal joint of the ring finger of the left hand three years previously. At the time of examination most of the metacarpophalangeal and phalangeal joints of both hands were involved, also wrists and knees. The patient's complexion was muddy and anemic; nutrition fair. In the history she gave the information that nineteen years previously she had had an attack of typhoid fever. The patient was examined repeatedly with negative results. Finally one day, on examining her, a tenderness was discovered at McBurney's point. On closer questioning it was found that she occasionally felt pain in this region, and on analyzing the history carefully it was determined without question that the previously mentioned attack of typhoid fever had really been a severe unrecognized attack of appendicitis. The appendix was exposed by a McBurney incision, was found 7 cm. in length, curled up, universally adherent, lumen markedly constricted near its proximal end, the distal end filled with fecal matter. The appendix was removed in the ordinary manner, the patient made an uneventful recovery so far as the operation was concerned, her nutrition began to improve, a healthy complexion replaced the previous muddy anemic one, the joint irritation slowly subsided, and for the past year or more she has been in perfect health.

The question arises what shall be done with those patients who are not yet helpless, but in whom we are unable to find the cause. For the present, I shall have to give the advice that they be left alone, unless they are thoroughly familiar with the disease, know what is in store for them if they follow the ordinary methods of treatment, and are willing to persist in the treatment above outlined until relatively cured. The only cases in which I have suffered defeat have been those of patients who have come in the intermediate stage when the cause could no longer be ascertained and before they were absolutely helpless.

If the patient does not come under treatment until she is bed-ridden much can still be done for her. She can be relieved of all of her pain, much of her deformity and malnutrition; often she can be rendered self-supporting and always enabled to look after her own personal wants.

As an illustration of the above I wish to give briefly the history of one of the worst cases of arthritis deformans I have ever treated.

CASE 2.—An unmarried woman, aged 29, came to me in the summer of 1897. She was scarcely able to walk a distance of two blocks; she was greatly emaciated and gave the history of first experiencing slight pain at the point of insertion of both tendons of Achilles five years previously. Gradually and insidiously one joint after the other became involved, so that when I first saw her nearly every movable joint of the body was affected. In the meantime she had consulted many physicians, including several prominent specialists and also numerous quacks, including faith-healers, etc. During the next two years I tried various remedies then advised in the treatment of this affection, including the application of hot air and wet compresses. The patient, however, became progressively worse, more and more helpless, bed-ridden, so that by 1899 she was absolutely helpless. She could not walk, stand, lie or sit, but had been resting in a semirecumbent position on a specially constructed couch. Finally she became so helpless that she could not even turn the leaves of a book which was resting before her on a reading table: even her jaws and spine were partially ankylosed. In 1900 she was sent to the hospital; on admission she weighed 78 pounds. She was anesthetized, the contractures broken up, immobilized as previously outlined and slowly began to improve. The last time I saw her, about five years ago, she weighed 140 pounds, and was up and around; to be more precise, she was stirring the batter for a cake. She informed me that she was doing considerable housework, nursing her aged sick mother, and was able to attend to her own personal wants with the exception of putting on her own shoes and stockings. For the last five or six years she has sent me a piece of her own needlework every Christmas.

While such a condition is not to be looked on as a perfect cure, it is surely a very much less deplorable condition than that which existed before this treatment was instituted. I have several patients who had been bed-ridden for years who are now making their own living.

In concluding, I should like to emphasize the following points: *first, that a clear differentiation is absolutely necessary to the successful treatment of these chronic joint affections; second, that beginning cases of arthritis deformans should be carefully studied, the cause ascertained and removed whenever this is possible; third, that for the present at least it is well to be rather cautious in the treatment of the intermediary cases; and, finally, that even in the very late and apparently hopeless cases the patients can usually be greatly benefited by proper treatment.*

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# NITROUS-OXID-OXYGEN ANESTHESIA BY THE METHOD OF REBREATHING

## WITH ESPECIAL REFERENCE TO THE PREVENTION OF SURGICAL SHOCK

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The following article gives the results of a trial of nitrous-oxid-oxygen anesthesia in the service of Professor Halsted at the Johns Hopkins Hospital. My object at the outset was to develop a method of administering these gases so simple, cheap and effective as to make possible their more general use. As nitrous-oxid and oxygen are expensive and are to be obtained only in heavy cylinders, it seemed to me that the solution of the question of their administration, so far as cost and convenience are concerned, must lie in using them over instead of wasting them after one inhalation. I have, therefore, studied the effects of rebreathing these gases with a view to determining to what extent this may be permitted without injury to the patient. My results have led me to believe that within certain limits the method is not only harmless but beneficial.

For the sake of clearness I shall consider the facts to be presented under three headings, namely: (1) the apparatus employed: (2) the method of administration; (3) the clinical results.

### THE APPARATUS

This consists of a holder for the cylinders of gas, a rubber bag, a face-piece, and the connecting tubing. The holder, as will be seen from Figure 1, consists of a basket of iron, triangular on cross-section, into which two cylinders of nitrous oxid and one of oxygen may be placed. Small set-screws hold them in position. One of the lateral bars of the basket is made into a handle for carrying it about. In the operating-room we have a special stand for this holder. Such a stand is unnecessary, however, as the holder may be placed on a table or chair. To the upper part of the holder is bolted an L-shaped tube, each arm of which is about 2 inches long and 1 inch in diameter. Three small tubes through which gas is admitted from the cylinders enter the upper part of the L tube. Each of these is connected with its cylinder by means of a short piece of rubber tubing and an ordinary collar of the kind sold with the cylinder.

A rubber bag of 6 to 8 liters' capacity is attached to the vertical arm of the L tube, and a rubber pipe one inch in diameter and 2½ feet long to the horizontal arm. This pipe is wrapped with wire to prevent kinking. It leads to the face-piece. If so desired, the rubber bag may be attached directly to the face-piece. It is more convenient, however, to have it on the holder. There is no obstruction to breathing through a tube an inch in diameter. As the face-piece (Fig. 2) is the most important part of the apparatus, it merits a somewhat careful description.

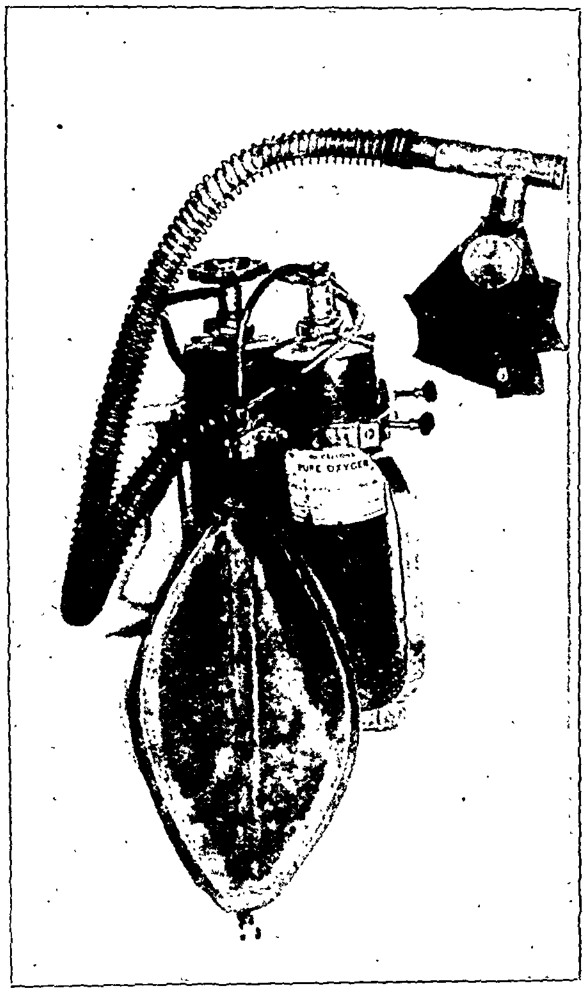

Fig. 1.—The complete apparatus.

It consists of a valve box (VB) and a mask (M). The valve box is made on the principle of a trombone and has an outer and inner tube. By sliding the latter to a given one of three positions, the patient may be made to breathe air in and out through valves, or gas (with oxygen if desired) in and out through valves, or gas to and fro into the bag.

In Figure 2, OC is the outer tube, IC the inner, and VC a valve cartridge which slips into IC, and may be taken out at will to permit repair of the valves. Nitrous oxid and oxygen are admitted at the end marked "From Gas-Bag." The other end is covered by a detachable diaphragm (D) perforated by wide openings around its border. These are closed by a rim on the valve cartridge when the latter, together with the inner tube (IC) is shoved to that end of the outer tube (OC).

The outer tube has two lateral openings: an air-vent ("Air") and a large orifice (FO) leading to the mask. The inner tube has three lateral openings, $O_1$, $O_2$ and $O_3$, placed as shown.

The valve cartridge is open at both ends, and has a lateral opening which fits over the orifice $O_3$ in the inner tube. It has two valves of rubber ($V_1$ and $V_2$) which open in the direction indicated by the arrows.

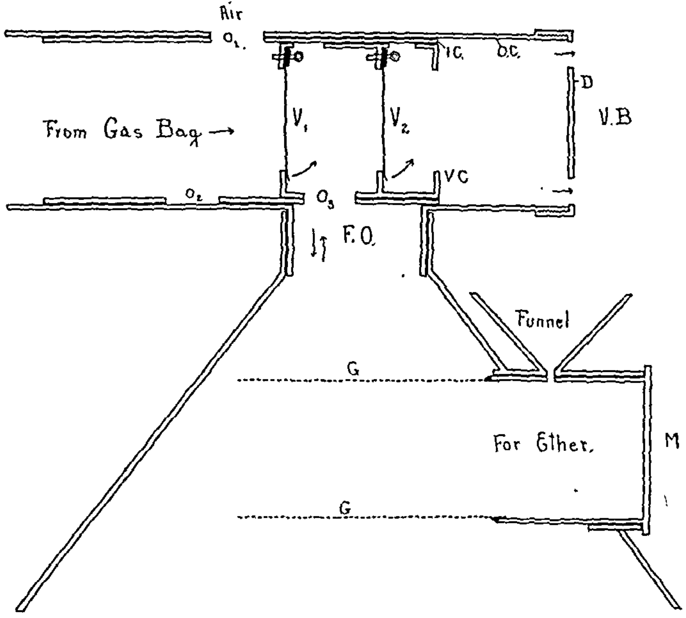

Fig. 2.—Longitudinal section of the valve-box and mask.

The inner tube may be pushed into three different positions: The first is shown in Figure 2; in the third its end is against the diaphragm D, while in the second position it is halfway between these extremes. When in the first position, air enters the valve box through the air vent, and is breathed inward through the valve V, and the opening $O_3$, and outward through $O_3$, valve $V_2$, and the holes in the diaphragm D. Gas is usually not given when the air vent is open. In the second position, the air-vent is closed and gas is breathed inward and outward just as air is breathed in the first position, the only difference being that the orifice $O_3$ in

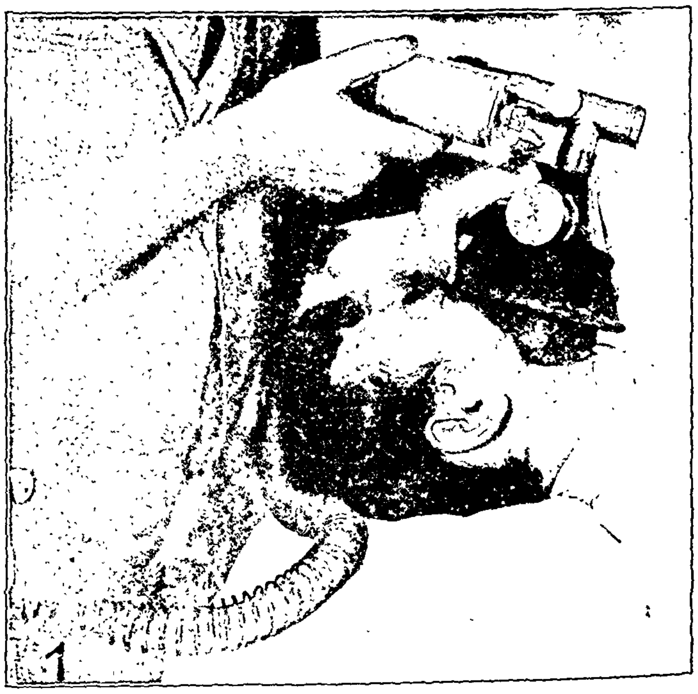

Fig. 3.—Adjustment of the cuff to the face, and method of using ether.

IC is over the opposite end of the large opening, FO, in the outer tube. In the third position, the air vent is still closed, and $O_2$ comes over FO while the valves are thrown out of action. Gas is then breathed to and fro into the bag.

The mask is attached directly to the valve-box, as shown in Figures 1, 2 and 3. It is essential that this fit the patient's face so as to be absolutely air-tight. The ordinary face-piece is fitted with an inflatable rubber rim. As such a mask cannot possibly fit every face, a set of graduated sizes must be employed. Even then a mask cannot always be found which will fit the face of an edentulous patient or of one with a beard or a prominent nose. As these face-pieces do not fit under the chin, they are usually brushed away by any sudden movement of an unruly patient. Furthermore, it is very tiresome to hold such a mask accurately in place during a long anesthesia.

I have hit on a simple device which does away with these difficulties. This consists of a mask provided with a rubber cuff, and big enough to fit the largest face. The cuff is pulled up over the margin of the mask (Fig. 3). To adjust the cuff to the face the free portion of the cuff is turned back over the margin of the mask, and the latter is put on the face so as to take in the nose and chin. The cuff is then turned down, when it firmly grasps the chin, cheeks and nose. It may be made to fit any face. I have used it on a child 2 years old. The cuff allows dental props, gags, etc., to be put into the mouth without admitting air.

One other part of the mask—the ether attachment—remains to be described. This (Fig. 2) consists of a cylinder of wire gauze ($G_1$) an inch and a half in diameter, fitted at one end to a short metallic cartridge ("For Ether," Fig. 2). The latter fits accurately the inside of a tube passing through the wall of the mask. Tube and cartridge are perforated by small openings which may by superimposing by rotating the cartridge. The wire cylinder is packed with gauze, on which ether is dropped through the orifice H. The latter is provided with a funnel, inside of which is a perforated plate which prevents any splashing of ether when the patient expires. Because of the heat inside the mask, the ether is rapidly evaporated from the gauze, and very small amounts are required. It need hardly be said that chloroform should never be given with such an apparatus.

The main features of this apparatus may be summarized as follows:

1. It is simple and is made to withstand hard usage. It cannot easily get out of order, and, if it does, it may be quickly taken apart and repaired.
2. It is light and easily portable. Exclusive of the cylinder, it weighs only 6 pounds; with two cylinders, 26 pounds. Packed in a bag of canvas or leather it may be taken anywhere.
3. It may be quickly sterilized by boiling. To spare the rubber we usually sterilize the bag and tubing with a solution of bichlorid of mercury which is rinsed away with water.
4. It is economical in the use of gases, as the cuff prevents all leakage.
5. There is so little mechanism to be considered and the administration is so simple that the anesthetizer has plenty of time for observation of his patient.
6. It is inexpensive. The total cost of the apparatus is about $25.

## METHOD OF ADMINISTRATION

With the air-vent open the cuff of the mask is fitted to the patient's face, care being taken to prevent the admission of air at the sides of the nose. In some cases it may be necessary to lay a piece of gauze across the bridge of the nose and draw the cuff over it, or to hold the cuff there with the finger. The inner tube of the valve-box is pushed to its mid-position and nitrous oxid admitted to the bag. The patient now inhales this gas and expires into the outer air, thus washing out, as it were, all the air from his lungs. This process is continued until he becomes very slightly cyanotic. Then the inner tube is pushed to its final position and the patient breathes to and fro into the bag. At this moment a small puff of oxygen is admitted to the bag, just enough to restore the natural color of the face. The patient now rebreathes a mixture of nitrous oxid and oxygen until the inner tube of the valve box is moved back to its mid-position. He then exhales each breath into the air until the bag is empty. The anesthetizer then fills it with a fresh mixture of gases, which the patient again rebreathes. No attempt is made to measure the exact percentage of oxygen given. This we regard as unnecessary. It is perfectly easy to add directly from the oxygen cylinder exactly the right amount of this gas to each bag of nitrous oxid. The patient's color is an extremely delicate indicator of the amount of oxygen he is getting. Our rule is to give just enough oxygen to keep the patient's color free of the least tint of cyanosis. The most elaborate device for regulating the percentages of the two gases can do nothing more than this.

The question now arises whether rebreathing in the manner I have just described is injurious. Many writers have attached great importance to certain volatile organic poisons in the expired air. This has caused several inventors of apparatus for giving nitrous oxid and oxygen to do away entirely with rebreathing. Hewitt's apparatus, although its inventor states that rebreathing is probably not harmful, does not permit rebreathing. Dr. H. Warren Buckler, anesthetist for Dr. H. A. Kelly, has used the method of rebreathing for several years and has noted no ill effects therefrom. I have sought from the first to determine to what extent rebreathing is permissible. Prof. W. H. Howell[1] has reviewed the experimental data bearing on the question of the harmful products of expired air. His conclusion, which is based on the experimental work of Haldane and Smith,[2] is that it is highly improbable that any volatile organic poisons exist in the breath, and that the only harmful products of respiration are water vapor and carbon dioxid. He says:

> Individuals, kept in a confined space for a number of hours, give no symptoms of evil effects except when the accumulation of carbon dioxid has reached a concentration of over 4 per cent. At this concentration rapid breathing is apparent, and if the carbon dioxid rises to 10 per cent. great distress is felt, and the face becomes congested and blue.

If we accept these conclusions as correct, we may make a rough calculation based on them to determine the number of times a patient may rebreathe a given quantity of gas without injury. The average volume of an expiration for an adult is 500 c.c. This contains 4 per cent., or 20 c.c., of carbon dioxid. Therefore an adult patient can breathe the contents of a bag containing 8 liters of gas sixteen times before the carbon dioxid content of the same will reach 4 per cent.

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[1] Howell, W. H.: Text-Book of Physiology, Ed. 2, p. 614.

[2] Haldane and Smith: Jour. Path. and Bacteriol., 1893. i, 108, 318.

At first I adhered pretty closely to this rule, as I feared that too high a percentage of carbon dioxid would be injurious. I also tested frequently, usually in the course of the same anesthesia, the effect of rebreathing and of a continuous administration without rebreathing. The latter procedure has always been the less satisfactory one. With it the patient's respiration soon becomes shallow and his pulse more rapid, even when his color is good and the anesthesia deep and satisfactory. With rebreathing, on the other hand, the respiration becomes deep and full and the pulse rate usually falls. This result, until I had familiarized myself with the recent work of Dr. Yandell Henderson on "Shock," I attributed entirely to the stimulant action of carbon dioxid on the respiratory center. Henderson's work, however, *indicates that this compound has also a direct action* on the venous system.

"Failure of the circulation in shock," he states, "is due primarily to abolition of venous, not arterial, tonus." "The hypothesis is presented that acapnia (diminished carbon dioxid in the blood and tissues resulting from hyperpnea and from exhalation of carbon dioxid from exposed viscera) *is the cause of surgical* shock." Carbon dioxid, he believes, is the normal stimulant of the venous wall. If *the amount of this gas in the* blood decreases below a certain level, the veins dilate and the blood accumulates in them until not enough blood is returned to the heart properly to support the *circulation*. Shock would thus only indirectly be the result of trauma. When it occurs in the course of anesthesia or after a painful injury it would be due to overventilation of the lungs, which diminishes the carbon dioxid content of the blood. Henderson was able, merely by regulating "the rate of pulmonary ventilation" to adjust the heart to any desired rate of beat. He believes that carbon dioxid exerts a stimulative action, not only on the respiratory center, but on the vasomotor and cardio-inhibitory centers as well. The respiratory center is, however, much more sensitive to the action of carbon dioxid than the others, and not until the departure from normal of the carbon dioxid content of the blood becomes fairly well marked is the pulse slowed or the blood-pressure elevated. Thus a reduction of the carbon dioxid content *of the blood causes, as a rule,* shallow, feeble respiration, a rapid pulse, and low blood-pressure, while excess of carbon dioxid causes deepened respiration, slowing of the pulse, and increase of blood-pressure.

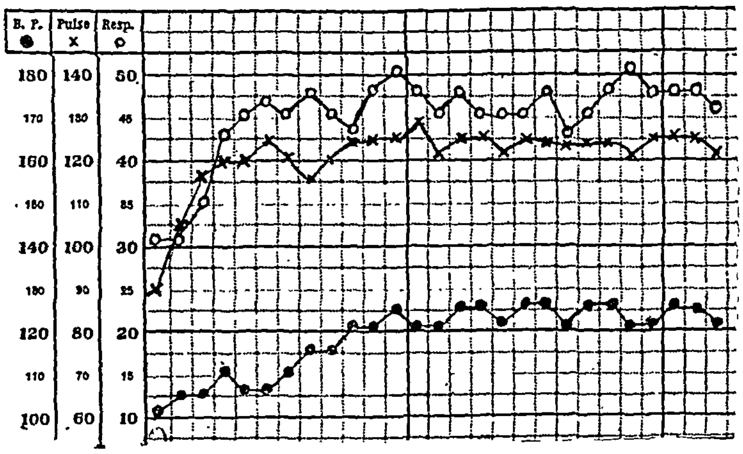

Fig. 4.—Chart of the pulse (line with crosses), respiration (line with circles), and blood-pressure (line with heavy dots), during anesthesia of two hours and fifteen minutes' duration. The patient was a woman of 65 with carcinoma of the sigmoid. The operation was closure of a fecal fistula by double lateral anastomosis, repair of an old wound in the abdominal wall, and colostomy. Note the constant level of the pulse and the maintained rise of blood-pressure. The temperature rose from 98.6 to 99.9. The recovery was excellent.

It is evident, if this theory be correct, that rebreathing *to a certain extent,* during nitrous-oxid-oxygen anesthesia, is not harmful, but beneficial. The respiratory rate with this form of narcosis is very rapid—*frequently* from forty to sixty a minute. Such overventilation of *the lungs must rapidly take carbon dioxid from the* blood. I shall briefly present certain observations which lend support to Henderson's theory.

1. Rebreathing, provided enough oxygen be given to prevent cyanosis, can be permitted for a surprisingly long time without any appreciably injurious result. I have tested this by having healthy adults breathe to and fro the contents of a six-liter bag of oxygen. This may *be done from four to eight minutes without the slightest* change in pulse or blood-pressure. The gas in the bag becomes hot, moist and disagreeable to breathe, and there is some sweating; otherwise there is no discomfort from this experiment.

2. The pulse, *respiration* and *blood-pressure,* once anesthesia is well established, are very little affected by the trauma of the operation. I have twice *given this anesthetic during the evulsion of large peripheral nerves* and neither time was there the least change in the patient's condition. Likewise there is no change during the most vigorous manipulations of ankylosed joints. The chart (Fig. 4) shows how little effect is produced by trauma and exposure of the intestines. This would seem to be favorable to Henderson's contention that trauma produces shock chiefly by increasing the ventilation of the blood in the lungs. Rebreathing prevents such ventilation.

3. A *pulse, rapid before operation,* is nearly always slowed when rebreathing is permitted for some length of time. Very sick patients, with rapid pulse and quick, shallow respiration, actually seem benefited by this form of anesthesia. A young man with gangrene of the bowel had a pulse-rate before operation of 160. During the operation, which lasted forty-five minutes, his pulse varied from 90 to 120 and was of a distinctly better quality than before. If the anesthesia is unsatisfactory, or if rebreathing is not permitted to any great extent, I have always noted an acceleration of the pulse. This observation is in accord with Hewitt's statement,[3] that "the pulse is invariably accelerated." It is to be noted *that Hewitt's apparatus does not permit rebreathing.*

On two occasions I have observed a sudden and marked slowing of the pulse, in one case from 90 to 60 and in another from 80 to 50. In both cases the tension was also markedly increased. Both patients were of a good color and both had been rebreathing for rather long intervals. I attribute a fall of this kind to a sudden stimulation of the cardio-inhibitory center by an excess of carbon dioxid in the blood. On washing out the lungs *with a fresh supply of gas, the pulse-rate immediately rose. The blood seems to free itself of an excess of carbon dioxid with great rapidity.*

4. There is usually a well-marked and sustained rise of blood-pressure during this form of narcosis. In the case of the patient whose chart is shown in Figure 4 the rise was from 100 to 120. I have a number of charts which illustrate this fact. According to Henderson, carbon dioxid has a direct stimulant action on the vasomotor center.

The carbon dioxid is not the only product of expiration the effect of which must be studied with regard to rebreathing. The heat of the exhaled gases has also an important action. Normally the body loses a large amount of heat in the expired air. This loss is prevented by rebreathing. Therefore there is a rise of body temperature. This I have almost always found to be over half a degree in anesthesias of thirty minutes or more. During an administration of three hours the temperature rose 1.3 degrees.

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[3] Hewitt: Anesthetics, Ed. 3, p. 316.

Rebreathing is thus a most effective method of heating the gases, which are cold on being freed from their cylinders.

The body also loses considerable moisture by way of the lungs. Water vapor accumulates in the rebreathed gases, but this, so far as I have observed, has no ill effect on the patient.

It is best and cheapest not to admit any air during the administration. Satisfactory anesthesia is impossible with enough air to prevent cyanosis, because of the large amount of nitrogen in the air.

### CLINICAL RESULTS AND OBSERVATIONS

We have given nitrous oxid with oxygen by the method of rebreathing without mishap to about 700 patients. Records of the pulse, respiration and blood-pressure have been kept during the more important administrations, and postoperative examinations of the urine made. From the data so obtained I shall attempt to answer three questions: 1. Is this form of anesthesia safe and free from bad after-effects? 2. Is it deep and smooth enough to be satisfactory to the surgeon? 3. Is the administration sufficiently cheap and convenient to be generally used?

It would be foolish to assert that there is no danger. The danger lies, however, not at all in the anesthetic, but entirely in the way it is given. There are three danger signals: cyanosis, slowing of the pulse, and vomiting. With a good color, a pulse of 70 or above, and regular breathing, there is no danger. Vomiting is not a cause of trouble when the patient has been properly prepared for operation. It is to be feared if he has just eaten, or if he has intestinal obstruction. At the first sign of retching the mask is to be removed. As the patient regains consciousness very quickly, he is not liable to aspirate vomitus.

For an adult man, rebreathing can be permitted for two-minute intervals, and for three-minute intervals for women and children.

I have met practically no bad after-effects. A few patients have vomited during or just after the administration. A few have had slight headache. A boy with extensive burns was anesthetized daily for twenty to fifty minutes on three successive days without the slightest appreciable evil result. He could take food immediately after the administration. Although a very large percentage of our patients have been seriously ill at the time of the operation, many of them with advanced pulmonary or renal disease, we have had no fatalities or postoperative complications attributable to the anesthetic.

In answer to the second question I may state in a general way that for the cases for which this anesthetic is especially indicated it is as satisfactory to the surgeon as ether. Almost every abdominal and peripheral operation, except craniotomy and operations on the female pelvic organs, has been performed under it. Fifty of the cases have been laparotomies. The list has included drainage of the mastoid cells, drainage of the antrum of Highmore, excision of tuberculous glands of the neck, drainage of empyema, removal of the breast for benign and malignant disease, operations on the gall-passages, intestinal anastomosis, appendectomy, cystostomy, nephrectomy, repair of typhoid perforation of bowel, cure of hernia, castration, amputations of leg and arm, exploration of great joints and evulsion of nerves. One administration lasted three hours; three others have been for more than two hours. Most failures are to be traced to a poorly fitting mask. A very small amount of air will spoil the anesthesia. It would be claiming too much, however, to assert that this form of narcosis is always as satisfactory as that of ether. Certain patients cannot be kept properly relaxed without a disagreeable degree of cyanosis. With such cases it is wisest not to go on very long with nitrous oxid, but to give ether at once, either very small amounts in the mask or by the drop method. Ether should never be given for a long time by means of the mask. By the aid of a few drops, however, there is rarely a patient who cannot be carried through the more difficult periods of the operation.

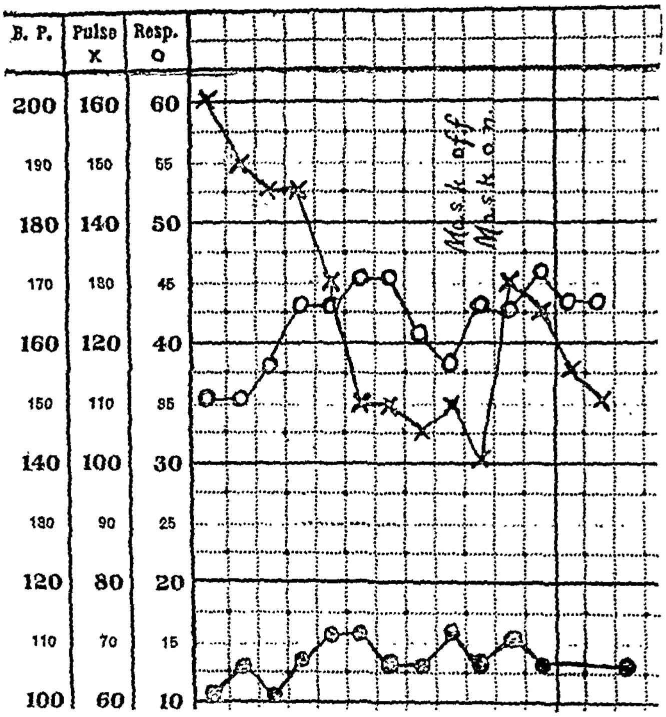

Fig. 5.—Chart of the pulse, respiration and blood-pressure during an operation for recurrent sarcoma of the humerus. The rapid pulse at onset was probably due to nervousness.

To the third question I can at once answer in the affirmative. For the following reasons this form of anesthesia is very convenient:

1. It is pleasant to the patient; many patients will consent to operation under "laughing gas" who would refuse if ether were to be used.

2. Consciousness is quickly lost and quickly regained. The patient does not have to be watched by the anesthetizer for more than a brief period after the operation, and may be allowed to come out of the anesthetic at any time should his cooperation be necessary to the surgeon. Very few patients have any excitement on recovery.

3. The anesthetic is so nearly harmless that one does not hesitate to give it to the same patient over and over again, at frequent intervals, or to use it for painful dressings, manipulations, etc.

4. The apparatus is cheap, easily portable, simple and not difficult to use.

5. The cost is not great. The patient whose chart is shown in Figure 4 consumed one cylinder of nitrous oxid (cost $1.75) and ten to fifteen gallons oxygen (cost about 40 cents) in two hours and fifteen minutes. Roughly, the cost is about 1½ cents per minute of anesthesia. The cost is greatly lessened by the method of rebreathing.

Besides being safe and convenient, this form of anesthesia has, I believe, a unique characteristic which makes it especially valuable for very sick patients. I refer to its remedial action for shock. This effect, which has already been discussed, may make of the anesthetic an aid instead of an evil. Furthermore, I have seen no cases of postoperative collapse following its use. Patients who cannot be easily anesthetized by nitrous oxid alone may first be etherized to a moderate depth and the anesthesia then continued with nitrous oxid. The therapeutic effect of rebreathing may thus be secured for all cases.

### SUMMARY

1. Nitrous oxid with oxygen may be successfully given by a very simple and easily portable apparatus.
2. It is unnecessary to measure the percentage of oxygen given.
3. There are no harmful organic substances in expired air.
4. Rebreathing to a moderate degree is harmless.
5. In many cases rebreathing is beneficial, as it causes increased depth of respiration, slowing of the pulse, a rise of the blood-pressure and a rise of temperature. It seems probable that all but the last of these results may be attributable to the action of carbon dioxid.
6. Evidence is presented which indicates that surgical shock in the absence of hemorrhage may be caused in part by excessive pulmonary ventilation.
7. The method has met the requirements of a thorough clinical test.
8. The ether-nitrous-oxid sequence is suggested for certain cases.

I desire to thank Professor Halsted and Prof. W. H. Howell for criticism of this article and Professor Halsted for the use of the clinical material on which it is based.

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# THE HISTORY, PREVALENCE AND PREVENTION OF RABIES AND ITS RELATION TO ANIMAL EXPERIMENTATION *

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One cold, stormy, January night a poor, weather-beaten, tired and bedraggled dog appeared at a farm-house some twenty miles from Boston. He had evidently traveled a long road and was sheltered and fed and treated with the usual kindness that any one with a heart in him would show to such a waif. The next morning he "made friends" with the neighbor's dog Pete, and, dog-like, the two exchanged a few bites in the process. During the day he seemed morose and unfriendly, and snapped at people, and, from a fear that he might bite the children, he was shut up in an outbuilding. The next morning he was found dead.

In February the neighbor's dog made a vicious attempt to bite a horse driving into the yard. Amazed at such unusual conduct, the farmer drove the dog away with a whip, and the animal disappeared down the road, never to be heard from again except that an animal answering his description was seen to attack two puppies in the near-by village. These two puppies died a few weeks later with symptoms of rabies.

It was Pete's custom to sleep in the barn; and in March two cows in this barn, and a week later two more cows, died showing unmistakable symptoms of rabies, in the opinion of a veterinarian in the employ of the State, who has had much experience with this extraordinary disease.

The explanation was simple: the poor waif had been suffering from rabies, his friendly (?) bite had infected Pete, who had in turn bitten the pups and the cows, and all had died of rabies.[1] There had been no rabies in or about this town before the advent of this waif.

Such strange tales as this, and more strange, were told by our fathers and by their fathers, and each generation back through the centuries has no doubt heard similar stories; and, if we go back as far as the fourth century before the Christian era we find the first record of this disease in the words of Aristotle: "Dogs suffer from madness that puts them in a state of fury, and all animals which they bite, when in this condition, become also attacked by madness."

And, if we return through the ages, following the literature, we find reference to rabies in the works of Virgil, Horace, Ovid and Plutarch. The disease in human beings was first recorded by Cornelius Celsus in the first century A. D., who was also the first to use the word "hydrophobia." Dioscorides recommended the extirpation of the wound as protection against the disease, and Galen in the second century A. D. stated special remedies for rabies. Furthermore, Pliny the younger, Columella and C. Aurelianus may be mentioned among the early authors who referred to the disease. Nothing comes to us on the subject from the middle ages. In 1591 Bauhin in his "Memorabilis historia luporum aliquot rabidorum" speaks of the infection of human beings by rabid wolves. There was an epizootic of rabies in 1604 in Paris (Andry); toward the end of the seventeenth century in Italy (Baglio, Rammazzini); in 1708 in Suabia;[2] in 1719-23 in France and Germany; in 1754-1760 in England; in 1779-1807 in America, especially in West Indian Islands and Peru. Toward the end of the eighteenth and the beginning of the nineteenth century rabies had spread all over Europe. From 1803 to 1830 there was an epizootic of rabies among the foxes in Southern Germany and Switzerland (Köchlin and Franque). The saliva of the rabid dog was demonstrated by inoculation experiments to be infectious by Zinke (1804) and Gruner and Salm (1813); that of herbivora by Berndt (1822), and that of human beings by Magendie.

In 1814 and 1815 accurate experimental investigations regarding the disease were made by Viborg in Copenhagen and Waldinger in Vienna. The clinical knowledge was especially enriched in 1817 and 1818 by Delabère-Blaine and Greve (England). In 1822

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* This article is one of a series issued in pamphlet form by the Council on Defense of Medical Research of the American Medical Association for circulation among the public. Nine of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, rabies, etc.

[1] To prove the matter beyond peradventure, the brain of the waif (still in fair condition owing to the cold weather) and one of the cows were sent to me for examination, and Negri bodies were easily demonstrated, proving the disease to have been rabies.

[2] Camerarius and Scharff: Dissertatio inaugural de Alysso clave, Tübingen.

the epizootic prevailed in Holland, in 1823-1824 in Berlin and Prussia, in 1824 in Sweden and Russia. During the outbreak from 1823 to 1830 Hertwig published[3] a large number of carefully carried-out inoculation experiments on animals which greatly advanced our knowledge. Virchow showed the fallacy of the spontaneous origin theory in 1854.

Galtier of the Lyons veterinary school gave us a method of transmitting the disease to rabbits, thus establishing the often necessary proof that a given suspicious case was truly one of rabies. He also made experiments to confer immunity with saliva and brain matter (1880-1881). The marvelous researches of Pasteur and his coworkers Roux, Chamberland and Thuillier (1881-1889) demonstrated the location of the purest and most concentrated virus in the central nervous system and gave to the world the wonderful protective inoculation which has reduced the mortality in man to a fraction of 1 per cent.

It was imperative that these investigators should use in their studies many animals, and those of different kinds, or no advance in knowledge would have been made. Animal experimentation always has been and always will be absolutely necessary to acquire accurate knowledge of any infectious disease, regarding its cause, means of dissemination, lesions produced, treatment and methods of prevention and eradication.

With the hope of being able to discontinue the necessity of inoculating animals (usually rabbits or guinea-pigs) in order to prove the existence of rabies in a given suspicious case, investigators have endeavored to find definite microscopic evidence equally reliable. Great advances in this direction were made by Van Gehuchten and Nelis in 1900 and by Babes at about the same time by their discovery of characteristic cellular lesions occurring with much regularity in certain portions of the central nervous system of animals and people that had died of rabies, but, as these lesions cannot be considered specific—there being a possible error of perhaps 2 per cent.—animal inoculations were still necessary in most instances. Since 1903, however, they have been rendered much less necessary by the discovery by Negri of very definite miscroscopic "bodies" in the nerve-cells of various portions of the brain in cases of rabies. In these bodies, which bear the name of the discoverer, we are probably close to the long-sought cause of rabies, and their presence having been demonstrated in a given case it no longer seems necessary to resort to animal inoculation to establish the existence of the disease.

As before stated, the disease had become widely spread over Europe during the early part of the nineteenth century. So we read of outbreaks continuing in 1838-40 in Austria and Württemberg, and in 1852-3 in Prussia. For example, in the last-mentioned year 150 rabid dogs were brought to the Berlin Veterinary School, and in Hamburg there were 267 cases of rabies. In 1861 there was an epizöotic in the Rhine provinces and France; in 1863-1871 in Württemberg; in 1862-1867 and 1873-1876 in Vienna; in 1865-1866 in Saxony; in 1871-1876 in Saxony, Bavaria and Prussia. Since the introduction of proper dog laws and compulsory muzzling the disease has greatly diminished in most of the German states, a yearly average of about 700 rabid animals being reported from 1866 to 1902,[4] usually near the border line of countries where muzzling is not enforced.[5] With such laws Denmark, Sweden and Norway have not known rabies for more than fifty years, and it has recently been eradicated from England and Switzerland. It has never been known in Australia, probably owing to the strict enforcement of a six months' quarantine for dogs.

With the exceptions noted, practically every European country—France, Austria, Hungary, Belgium, Holland and Italy—shows a record somewhat similar to that of Germany. Russia has had years of experience with this disease, and that country and Austria constantly supply the German towns on their borders with fresh cases. Roumania, Servia, Bulgaria and Turkey are by no means free, although the fact that dogs in the latter country suffer more often from "dumb" rabies explains the reason why it is not wider-spread in that land.[6] Rabies is also frequently reported in Africa and Asia.

It is naturally the pride of health boards and of governments to show as little disease as possible in their respective communities, and it is doubtless always with regret that they report outbreaks of infectious disease. Therefore, if official figures are to be misrepresented, they would naturaly be minimized rather than otherwise. We must consequently assume that, if the figures given for rabies and all other infectious diseases occurring in various lands are not true figures, they probably and undoubtedly represent fewer cases than actually occur, inasmuch as, unless remarkable supervision is exercised, numerous cases of disease are never reported, or escape detection.

In North America rabies exists in Canada, Mexico, Cuba and very widely in the United States. Accurate mortality statistics for all the states are impossible to obtain, as they are not kept with the same precision as in some European countries, nor has the prevalence of rabies in animals been recorded with much accuracy. We know, however, that it has existed here for about a century and a half. The first outbreak occurred in Boston in 1768, and in 1770 and 1771 it was observed in dogs and foxes in the same vicinity. It was reported in Philadelphia in 1779 and also in Maryland. In 1785 it was prevalent throughout the northern states and soon after spread to the southern states.[7] Peters[8] quotes from a Boston newspaper of 1798, which indicates that the disease existed in Rhode Island at that time, and there is little doubt that it has existed there and in many other states from time to time ever since. For example, it must have been prevalent in Massachusetts between 1876 and 1882, for during that period 44 people died of rabies, and again between 1888 and 1894 there must have been another outbreak, for 45 people died of it during this period.[9] The largest number of deaths in any one year was 17 in 1890; 15 in 1878, and 14 in 1877 and again in 1889. Previous to this the reports show that 28 people died of hydrophobia between 1842 and 1876, the number varying considerably with the years, often no deaths and once as many as 6 in 1854.

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[3] Hertwig: Beiträge zur näheren Kenntnis der Wuthrankheit, 1828.

[4] Friedberger and Frohner: Spezielle Pathologie und Therapie der Haustiere, 1904, ii, 548.

[5] See maps, etc., in Kitt's Was muss jeder Hundebesitzer wissen? Stuttgart, 1908.

[6] Remlinger and Mustapha Effendi, Hutyra and Marek: Spezielle Pathologie und Therapie der *Haustiere*, 1909, i, 467; Remlinger: Rabies in the Street Dogs of Constantinople, Jour. Tropical Veterinary Science, 1909, iv, 561. In this article Remlinger offers another explanation, not for the Ottoman Empire, but for the city of Constantinople. In closing he *says*: "*It is in the special* conditions under which street dogs live, in their *distribution into* distinct groups, in the subtle instinct *which makes the* others avoid a rabid dog, to which we must attribute, *more than to any* peculiarities in the disease itself, the rarity of rabies in Constantinople street dogs."

[7] Moore: The Pathology of Infectious Diseases of Animals, 1906.

[8] Peters: Am. Jour. Pub. Hyg., 1907, *p.* 96.

[9] Rep. Mass. State Board of Health.

In Massachusetts vital statistics of this disease in animals began to be kept in 1895, and Table 1 is made from the reports of the Cattle Commission (now the Cattle Bureau), the Boston Board of Health, the State Board of Health, Massachusetts reports of births, marriages, deaths, etc., and from figures kindly given me by the Health Department of the City of New York and by Dr. Rambaud of the Pasteur Institute of New York.

TABLE 1.—RABIES IN MASSACHUSETTS

| Year. | Mortality Dogs. | Mortality Other Animals. | *Mortality* People. | People Exposed and Given *the Pasteur* Treatment. |
|---|---|---|---|---|
| 1895 | 4 | 0 | 0 | 11 |
| 1896 | 12 | 2 | 2 | 7 |
| 1897 | 19 | 8 | 0 | 8 |
| 1898 | 25 | 2 | 2 | 11 |
| 1899 | 1 | 1 | 0 | 3 |
| 1900 | 3 | 0 | 0 | 0 |
| 1901 | 11 | 0 | 0 | 1 |
| 1902 | 2 | 0 | 0 | 1 |
| 1903 | 1 | 1 | 0 | 1 |
| 1904 | 2 | 0 | 0 | 0 |
| 1905 | 98 | 5 | 2 | 12 |
| 1906 | 356 | 43 | 8 | 133 |
| 1907 | 741 | 37 | 2 | 165 |
| 1908 | 511 | 53 | 5 | 144 |

These figures are fairly accurate, although probably far too low, as there can be no doubt that many cases in animals, and men also, were never reported. Suspicious cases are not included in the above table; the figures represent only such cases as were demonstrated beyond all reasonable doubt to be actual cases of rabies, either by a clear history of a bite by a rabid dog and subsequent typical symptoms, by the presence of Negri bodies, by lesions in the Gasserian ganglia, by animal inoculation and often all of these proofs in sequence.

Many of our states would show a similar or a worse record if figures were obtainable, but they are difficult to secure.[10] There is little doubt, however, that the disease is widely spread over the country, and few states, if any, are free from it.

Yet in spite of all historic and scientific evidence there are a few medical men who say they do not believe there is any such disease as rabies. They accept without remark other infectious diseases, but rabies is beyond their comprehension. If asked why they hold such contrary opinions, their usual reply is that they have never seen a case. Perhaps they have also not seen smallpox, glanders, trypanosomiasis or China, yet they do not deny their existence.

Here are two historic and scientific facts which have been demonstrated over and over again:

1. If ten persons are exposed to the same gonorrheal infection, a varying per cent. will surely contract the disease, unless preventive measures are employed.
2. If a rabid dog bites ten persons, or animals, a varying per cent. will surely become rabid unless preventive measures are employed. And yet it is as difficult to convince the person who accepts the one and rejects the other as it is to convince the man who refuses to trust the scientific evidence that the earth is not flat.

It is often stated that Pasteur institutes do not prevent rabies, but cause it. They may, so far as they insure a very reliable protection against the disease and consequently induce a carelessness in enforcing proper dog laws which in themselves would be sufficient to stamp it out.

Pasteur institutes are of two kinds, public and private. Public Pasteur institutes are established by endowment, such as the Pasteur Institute in Paris; by governments such as those of the United States Public Health and Marine-Hospital Service at Washington, the New York City Board of Health and the Consejo Superior de Salubridad, Mexico City; by universities, such as the Pasteur Institute of the Universities of Moscow and Bucharest. These are founded for the benefit of the people of the country and for the study of this and other diseases. Private Pasteur institutes are what the name implies, but it is as unfair to impute ulterior motives to their proprietors as it is to assert that all physicians have but one end in view in the practice of their profession. Both do an immense amount of charitable work which is never made public, and for which they often receive not even a thank-you.

Pasteur institutes will cease to exist as soon as properly enforced dog laws eradicate rabies, for no infectious disease can be so easily eradicated. It only needs the cooperation of humanitarians and real dog lovers to pass and enforce the necessary dog laws, and in a few years this will be accomplished. (See English statistics.)

The Pasteur preventive treatment has reduced the mortality of persons bitten by rabid animals from between 6 and 14 per cent. to a fraction of 1 per cent. The statistics of all the Pasteur institutes show this. No class of men is more ready to discredit the work of his brother, or is a more severe critic, than the scientist who controls the work of another, yet the statistics of all institutions giving the Pasteur treatment singularly agree. They may be read in the reports of the various governments and universities or in the *Annales de l'Institut Pasteur* from the time of the first publications by Pasteur.

A few tables will suffice to illustrate. To quote from Law:[11]

> The following table gives the number of individuals treated who had been bitten by animals which had been proved rabid by successful inoculation of other animals, and of those bitten by reputedly rabid animals, and their respective mortality:

TABLE 2.—RESULTS OF TREATMENT IN PERSONS *BITTEN* BY ANIMALS SUSPECTED AND PROVED RABID, RESPECTIVELY

| | No. Bitten. | No. of Deaths | Mortality % |
|---|---|---|---|
| By animals proved rabid by inoculation | 2,872 | 20 | 0.69 |
| By animals pronounced rabid by veterinarian | 12,547 | 61 | 0.48 |
| By animals suspected of rabies | 4,747 | 15 | 0.31 |
| Average mortality | | | 0.46 |

> The Pasteur treatment by its great success in persons who have already been bitten has in a great measure robbed hydrophobia of its terrors, only it must be resorted to as early as possible in the period of incubation.

In this connection it should be remembered that there is no known cure for rabies when symptoms have once appeared and that death follows a train of well-recognized phenomena, agonizing to the sufferer; and the delirium and mania, the violent reflex spasms of mouth and larynx with inability to swallow, are harrowing to the observer no matter how extensive his experience as a forced witness of others' suffering. Physicians who have been so unfortunate as to see a person with hydrophobia usually have no desire to see another, and find difficulty in eliminating the haunting recollection.

The figures of the Pasteur Institute of Paris,[12] 1886-1907, are given in Table 3.

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[10] Kerr, J. W., and Stimson, A. M.: The Prevalence of Rabies in the United States. THE JOURNAL A. M. A., Sept. 25, 1909, liii, 989.

[11] Law: Veterinary Medicine, 1900, iv, 331.

[12] Ann. de l'Inst. Pasteur, 1908, p. 557.

TABLE 3.—FIGURES OF THE PASTEUR INSTITUTE OF PARIS, 1886-1907

| Year. | Persons Treated. | No. of Deaths. | Mortality % |
|---|---|---|---|
| 1886........ | 2,671 | 25 | 0.94 |
| 1887........ | 1,770 | 14 | 0.79 |
| 1888........ | 1,622 | 9 | 0.55 |
| 1889........ | 1,830 | 7 | 0.38 |
| 1890........ | 1,540 | 5 | 0.32 |
| 1891........ | 1,559 | 4 | 0.25 |
| 1892........ | 1,790 | 4 | 0.22 |
| 1893........ | 1,648 | 6 | 0.36 |
| 1894........ | 1,387 | 7 | 0.50 |
| 1895........ | 1,520 | 5 | 0.38 |
| 1896........ | 1,308 | 4 | 0.30 |
| 1897........ | 1,521 | 6 | 0.39 |
| 1898........ | 1,465 | 3 | 0.20 |
| 1899........ | 1,614 | 4 | 0.25 |
| 1900........ | 1,420 | 4 | 0.28 |
| 1901........ | 1,321 | 5 | 0.38 |
| 1902........ | 1,005 | 2 | 0.18 |
| 1903........ | 628 | 2 | 0.32 |
| 1904........ | 755 | 3 | 0.39 |
| 1905........ | 727 | 3 | 0.41 |
| 1906........ | 772 | 1 | 0.13 |
| 1907........ | 786 | 3 | 0.38 |

The figures in this table are similar to those of all the Pasteur institutes of the world, for example that of Tunis,[13] where in 1906, 489 persons were treated, with no deaths. Since the foundation of this institute, 2,490 persons have been treated, with 9 deaths, or a mortality of 0.36 per cent.

At the Pasteur Institute of the University of Bucharest, in 1903-1905, 3,091 persons were given the preventive treatment and none died. In Berlin, in 1898-1902, 1,416 persons were given the Pasteur preventive treatment, of whom 12, that is, 0.84 per cent., died of rabies, while among those not treated the mortality was 6.9 per cent. In Prussia during the year 1907, 281 persons were treated, of whom 4, that is 1.4 per cent., died of rabies, while of those not treated 2. 7.1 per cent., died.

At the Budapest Pasteur Institute in 1890-1907, 35,639 bitten persons received treatment, of whom 159, that is 0.44 per cent., died of rabies, while from 1890 to 1903, of 1,861 bitten persons not treated, 266, that is 14.29 per cent., died of rabies.

In 1905 there were treated in forty Pasteur institutes in various parts of the world 104,347 people, of whom 560 (0.54 per cent.) died of rabies later than fourteen days after treatment ended. According to the location of the bite, i. e., head or the hands, the mortality of the treated varies from 1.99 to 0.36 per cent.[14]

The Pasteur preventive treatment depends on the fact that the spinal cord of a rabbit that has been inoculated with "fixed" virus and died of rabies in from six to seven days, loses its virulence day by day, so that at the end of fourteen days it is no longer capable of producing harmful effects.

Beginning, then, with an emulsion of a small piece of cord that is not virulent, or slightly so, the patient is inoculated daily for about twenty days with increasing strengths of the virus until his system has reacted to such a degree that it can withstand the stronger virus and immunity is produced. For this purpose many rabbits must be employed. Many rabbits and guinea-pigs must also be employed for the purpose of diagnosis in all laboratories where this work has to be done, such as laboratories of the boards of health, for instance. Happily, however, not so many animals must be used for this purpose as formerly, owing to the discovery of the Negri bodies. Unless some other method of diagnosis and treatment is found this sacrifice of rabbits and guinea-pigs must continue until rabies is eradicated.

An article[15] on hydrophobia which was recently sent to me was written, doubtless, with the hope of comforting many people and with the best intentions for the general welfare of the country. But I judge that the writer has had no personal experience with rabies and has spent little time on the study of the accepted scientific literature of this or any other infectious disease. Consequently many of her statements are not "facts," and if they are read by people who know nothing of medicine or medical literature, much real harm will be done instead of evidently intended good.

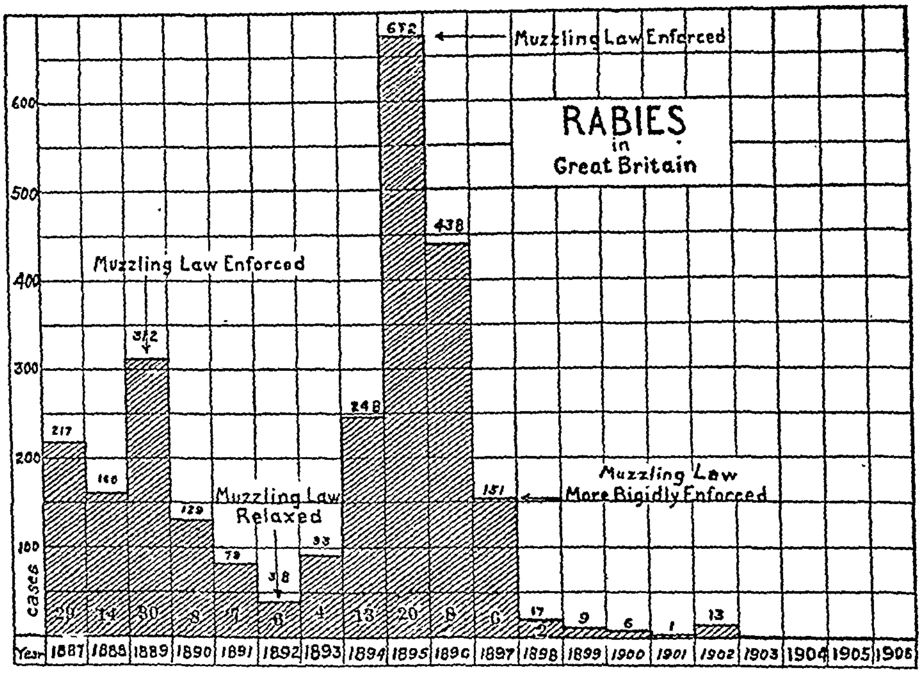

Chart showing relation of enforcement of muzzling law to prevalence of rabies in Great Britain. The figures in the cross-hatching indicate the number of persons who died of rabies in England. Credit for making this chart is largely due to Mr. Aubrey H. Strauss.

She would have us believe, for instance, that the Pasteur institutes are to a large extent responsible for hydrophobia, whereas it is the other way about; if there were no rabies there would be no institutes, and certainly the disease is much older than the institutes. To quote (p. 47): "In Germany, where there is scarcely any hydrophobia, they declined the offer of the Pasteur Institute." This is not a "fact," for there are two such establishments in Germany, the *Institut für Infektionskrankheiten*, Berlin, and the *Hygienische Institut*, Breslau; moreover there is still considerable rabies in that country, as we may see by referring to the works already mentioned, although now fewer deaths than formerly in human beings, perhaps largely owing to these very institutes.

Again to quote from this article:

> In England hydrophobia is almost extinct. The report of the Registrar-General for Great Britain and Wales . . . in 1907 said that in 1906 and for three years previously there had

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[13] Bull. de l'Inst. Pasteur, 1907, p. 404.

[14] The above statistics are from Hutyra and Marek.

[15] White, Caroline E.: Facts about Hydrophobia, Jour. Zoophily, May, 1909.

not been a single case of hydrophobia in the United Kingdom, and this same United Kingdom refused to have a Pasteur Institute.

Nothing could be more misleading than this "fact." The true reason that there is no rabies in England has nothing whatever to do with Pasteur institutes; it is merely that proper dog laws were enforced, i. e., all unlicensed and unmuzzled dogs were destroyed, as also all dogs exposed to a rabid one. The accompanying chart compiled from the "Annual Reports of Proceedings under the Diseases of Animals Acts" explains the matter very simply.

This scheme is so readily grasped that explanation seems unnecessary. The number of cases of rabies here given refer only to the dog. Other animals are excluded, and I have only added the number of deaths in man to show how they rise and fall with the number in the dog. It should be remembered that many English people annually took the preventive treatment; for example, 147 in the year 1892. These are the only figures that I have, but, if so many took the treatment that year when so few dogs were reported, it is fair to assume that the number increased when more dogs were affected.

Note that in 1892 there were but 38 rabid dogs in England. At this time the authorities listened to a petition of "dog-lovers" and removed the "cruel muzzle," with the result that during the next five years 1,602 dogs, to say nothing of many other animals, and 51 people died of the most agonizing disease known to the medical world. In spite of this fearful lesson these "humanitarians" came again in 1899 with another petition signed by 50,000 of them asking once more to be relieved of the annoyance of the muzzle. Fearing a repetition of the above calamity, the authorities wisely remained obdurate, with the result that in 1905 no case of rabies occurred in England, and there has been none since. The sudden rise to 13 cases in 1902 is very instructive. These cases occurred in a wild, hilly district of Wales where both people and dogs were difficult to control, but by rigid enforcement of the laws the trouble was stamped out.

The muzzles have been removed from the dogs in England, but will be resumed with the appearance of the first case of rabies. Moreover, there is a strict quarantine of six months imposed on any dog brought into the country.

Many people argue that the matter was comparatively simple in England, but that similar results cannot be accomplished here, as this is not a "little island." This is true to a certain extent only. If, for instance, all dogs of a state were muzzled and a rabid dog should come over the boundary from a neighboring state and bite a number of dogs, a certain percentage of these dogs would certainly develop rabies if not destroyed, but the dogs of this given state being all muzzled, the disease would spread no further; in other words, it would be kept down to the minimum.

Even local muzzling may be of great value if properly enforced. For example, not long ago a rabid dog attacked a number of school children and bit several of them severely, necessitating their taking the Pasteur treatment. This dog ran from a neighboring town where a muzzling order existed at that time, and, had he been properly muzzled or immediately shot for not being so, this calamity could not have occurred. Many similar instances might be given.

Even inadequate muzzling sometimes does much good, for it may succeed in preventing an individual dog now and then from spreading this truly terrible disease.

If those opposed to animal experimentation in general and Pasteur institutes in particular are truly interested in preventing much suffering in both animals and man as far as rabies are concerned, they should devote their energies to advocating the adoption of the historic methods employed in England and other countries for the suppression of this disease, and they will have the well-earned satisfaction of knowing that they have accomplished enormous good by assisting in the eradication of rabies from our country without any more annoyance to the dog than is daily experienced by all our draft animals in harness.

# PERINEAL PROSTATECTOMY

## SOME CONCLUSIONS BASED ON A STUDY OF 400 CASES

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Before discussing the operative results it may be well to say a few words in regard to the differentiation of hypertrophy and carcinoma of the prostate. In making this comparison I have a series of 145 cases of benign prostatic hypertrophy which were exhaustively studied two years ago[1] and a series of 111 cases of carcinoma of the prostate which I have recently published.[2]

In my series of 145 cases of hypertrophy, the prostate was described as distinctly soft in 56, elastic in 26, firm in 45, moderately hard in 14, very hard in no cases. The seminal vesicles were slightly indurated in 19, moderately indurated in 5. Glands were palpable in the pelvis in 5 cases. In my 111 cases of cancer the prostate was soft in 2, elastic in 1, slightly indurated in none, moderately indurated in 6, very hard in 78, stony in 9, in places very hard and in others soft in 10 cases. The seminal vesicles were indurated in most cases, generally very greatly in 88 cases and the membranous urethra was indurated in 35 cases. These figures show at once the very great importance to be attached to induration in the prostate in men past 40 years of age. In a few cases only a small area was involved, but it was invariably very hard. The 2 cases in which the prostate was soft were those in which hematoma was present beneath the capsule. The posterior surface of the prostate was irregular in 14 cases of prostatic hypertrophy and nodular in only one, whereas in carcinoma it was rough and nodular in 69 cases. It is a remarkable fact, however, that in most cases of carcinoma of the prostate the posterior surface is smooth until late in the disease.

The cystoscope showed in hypertrophy of the prostate no intravesical enlargement of the lateral lobes in only 13 cases, whereas in 45 cases of cancer the lateral lobes were considerably enlarged in only 7 and in the rest of the cases either not enlarged or only very slightly so. The median lobe of the prostate, which was so commonly enlarged in hypertrophy, was generally no more than a small bar in carcinoma, there being only 5 cases in 46 in which a small rounded lobe was present. In all of these cases, when the median and lateral portions of the prostate were present as rounded lobes, they were found to be adenomatous hypertrophies which were present at the same time with carcinoma. Pathologic examination showed that the carcinoma involved the posterior subcapsular stratum of gland tissue, whereas the hypertrophy involved the lateral and median lobes and projected into the bladder, the two being distinct and separate processes and the lateral lobes apparently preserved intact by their thick capsules which seem to prevent the ingrowth of cancer. Another very distinctive finding in cases of cancer was marked thickening of the entire suburethral portion of the prostate, whereas in hypertrophy there was only thickening in the region of the median lobe.

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[1] Johns Hopkins Hosp. Rep., 1906, xiv.
[2] Young, H. H.: Ann. Surg., December, 1909.

A study of these cases showed that carcinoma of the prostate occurred about one-fourth as often as hypertrophy (100 cases of cancer to 400 cases of hypertrophy); that carcinoma frequently occurred in cases in which no hypertrophy was present; that when the two occurred at the same time the cancer generally involved only a transverse layer beneath the posterior capsule and the two diseases remained distinct for a long time; that carcinomas grow upward into the space beneath the trigone and not toward the rectum nor the bladder, which was seldom involved, even late (and then through the trigone and in the region of the ureteral orifices); that induration should be viewed with great suspicion; that great hardness should always lead to an exploratory operation; and that in cases of pure carcinoma there are no enlarged intravesically projecting lateral or median lobes, but in about 50 per cent. of the cases a benign hypertrophy of the lateral lobes is present, and these may project into the bladder.

The value of the cystoscope has been very decisively proved in this series of cases. It was employed in fully 95 per cent. of the cases and was very valuable in demonstrating beforehand the condition of the bladder, ureters and intravesical portions of the prostate.

Vesical calculi were present in about 15 per cent. of the cases and large vesical diverticula in about 10 per cent. (in several sufficiently large to warrant operative removal). In a few instances calculi encysted in pouches or in diverticula were found with the cystoscope, and if they were in such a position as to make removal through the perineum impossible a suprapubic operation was done. Not a few cases, supposed to be hypertrophy of the prostate, were found to be tumors of the bladder, and in several instances hematuria, which was supposed to come from the prostate, was found to come from the kidney. I therefore feel very strongly the great importance of cystoscopy as a preliminary procedure. Without it the operation of prostatectomy is generally much less exact and scientific than with it.

In cases in which cancer was suspected the procedure followed was this: The operation was begun as for benign hypertrophy; that is, an inverted V-cutaneous incision, blunt dissection of the space on each side of the central tendon posterior to the transversus perinei and anterior to the levator ani, division of the central tendon and recto-urethralis, linear incision of the membranous urethra, insertion of the tractor, exposure of the posterior surface of the prostate by pushing back the rectum. Careful palpation was then made, and if the prostate was of stony hardness it was always found to be cancer. If the prostate was somewhat elastic an incision was generally made parallel with the urethra through the capsule on one side and an inspection of the cut surfaces made. A peculiar gritty sensation to the knife, suggesting a very fibrous tissue, and numerous small yellowish dots and lines in a grayish stroma would usually be present if the case were carcinoma. If it were impossible to make a naked-eye diagnosis a piece of tissue was taken for a frozen section which was stained at once and examination made while the operation halted. Not more than six to ten minutes were thus consumed as a rule, and if the case were found to be a fibrous prostatitis instead of carcinoma the usual operation for benign hypertrophy, namely, enucleation of the lateral and median portions of the prostate, was then performed, the urethra and ejaculatory ducts and vesical sphincter being preserved. If the disease was found to be carcinoma and previous examination had demonstrated that a radical operation was feasible this was at once begun by severing the membranous urethra, freeing the anterior and lateral surfaces of the prostate, dividing the bladder just above its juncture with the prostate, cutting across the trigone about 1 to 2 cm. below the ureters and finally excising the vasa deferentia and seminal vesicles with the entire prostate, prostatic urethra, capsule and cuff of bladder in one piece. An anastomosis between the large opening in the bladder and membranous urethra was then made, no difficulty being encountered, as a rule, in making a tight closure (and in getting subsequently a good union). If the disease was found to be carcinomatous, but previous examination had showed that the seminal vesicles were completely involved, or that the invasion had extended too high for any hope of complete excision by the operation above outlined, a simple conservative perineal prostatectomy was performed, great care being taken not to excise any mucous membrane and to dig out carefully the mass of carcinoma in the median portion of the prostate and sometimes beneath the anterior portion of the trigone. The wound was then closed, as in cases of hypertrophy, with double tube drainage for the bladder, light gauze packs for the lateral cavities, suture of the levatores ani and partial closure of skin with catgut.

Postoperative treatment in all these cases was about the same: water in abundance; infusion immediately after the operation (and frequently afterward if necessary on account of uremia); patient out of bed as soon as possible, generally the second or third day; gauze and tubes out on the day after the operation and no subsequent instrumentation except before the discharge of the patient, when a catheter was passed to see whether the bladder emptied itself completely.

I may say here that my experience shows that the passage of sounds is absolutely unnecessary in fully 99 per cent. of the cases. In very rare instances a slight contraction occurs in the membranous urethra several months after the operation, but I have not seen a single case of definite fibrous stricture following the operation, and I do not know of more than two patients who have had sounds passed occasionally since the operation. To pass a sound is always to invite epididymitis and traumatism of the verumontanum, and it is nearly always as unnecessary as it is inadvisable.

## ANALYSIS OF RESULTS

### I. CARCINOMA OF PROSTATE; RADICAL OPERATION

This was performed in 6 cases. The ages of the patients were 70, 64, 65, 75 and 68, respectively, and symptoms had been present 11 months, 3 years, 4 years, 1 year, 8 months and 1 year, respectively. Physicians had been consulted and treatment given 8 months before in one case and 7 months before in another. In both of these cases an osteopath was employed who gave prostatic massage, thus losing valuable time. One patient had been subjected to a Bottini operation six months before admission. In all cases sufficient symptoms had been present to warrant rectal examination, by which a diagnosis could have been made long before the patient applied to us for treatment.

The onset symptoms were difficulty and frequency of urination in all cases except one, in which the first symptom was pain in the urethra. Three patients had never suffered any pain. In the other three cases pain, either local or referred, was a prominent symptom. On admission urination was extremely frequent and difficult in all cases except one, in which a catheter was used twice daily.

The prostate was described as considerably enlarged in 3 cases, of moderate size in 2 cases and slightly enlarged in 1 case. Marked induration was present in all cases, involving the whole prostate in 4 cases. In 1 case one lobe was indurated, but less so than the other and distinctly elastic. In one case the marked induration was confined to half of the prostate, the other being very slightly indurated.

The seminal vesicles were found on rectal examination to be free from infiltration or induration in 4 cases. An area of induration between the seminal vesicles was present in 4 cases. The catheter showed 400, 300, 500, 400, 80 and 600 c.c. residual urine.

The cystoscope showed a slight elevation of the median portion in 5 cases. In one case there was a small definitely rounded median lobe with a shallow cleft on each side.

The lateral lobes were scarcely enlarged intravesically in any case. There was generally not even a sulcus between them in front, but in 2 cases it was present but shallow. The vesical mucosa was everywhere intact, but the cystoscope showed an elevation of the trigone which involved only the anterior portion in one case. In one case the trigone was considerably elevated and irregular, extending out on the left side as far as the urethra. In 4 cases the trigone was negative.

In 5 cases the operation was carried out with apparent success and without shock, but a study of the specimens removed showed carcinoma near the upper limit in 2 cases. In one case (patient dying of shock) autopsy showed extensive carcinoma of the peritoneum and retroperitoneal glands, although the bladder and seminal vesicles were free from invasion. In one case the patient died nine months after the operation as a result of traumatism and infection, in the attempt to remove a stone adherent to a silk suture. Autopsy showed a very small area (1 cm. in diameter) of recurrence back of the bladder. In one case the patient lived over three years in comfort, but autopsy showed extensive metastases in various parts of the bladder, the bladder and urethra, however, being free from ulceration. In one case in which the patient died six weeks after the operation from ascending renal infection as a result of the intentional but injudicious division of the two ureters, an extremely careful post-mortem examination of all the pelvic tissues, with numerous sections taken for microscopic study, failed to reveal any evidence of carcinoma, and it seems probable that the disease had been completely eradicated. Two patients are alive and apparently well, one six months and the second four and one-half years after the operation. In both of these cases the specimens showed that the disease had been completely removed with a fairly wide margin, and in one case at least the lapse of time seems to insure a radical cure.

As a result of the experience gained in these 6 cases the following may be said:

1. The operation should not be attempted in cases in which the infiltration extends more than a short distance beneath the trigone as determined by the cystoscope and by examination with the finger in the rectum and the cystoscope in the urethra; or in those in which the upper portions of both seminal vesicles are involved; or in those in which an extensive intervesicular mass or indurated lymphatics or glands or involvement of the membranous urethra or muscles of the rectum shows that the disease is manifestly too far advanced.

2. The ureteral papillæ should be left intact with sufficient tissue below them to insure proper suture and leave their openings free, 1 or 2 cm. above the wound.

3. Hemorrhage should be carefully checked (by hugging the capsule injury of the periprostatic flexus may be largely avoided).

4. Silk should never be used in making the urethrovesical anastomosis on account of subsequent deposits of lime salts, but chromicized catgut with occasional sutures of silkworm gut (left long for subsequent removal) are the best.

5. When the operation is attempted early it can be performed without much danger or great difficulty and with excellent chance of cure.

6. Only 3 of the 6 cases above recorded were suitable for operation. In all of these the disease was apparently completely removed, and one patient is now apparently well four and one-half years after the operation.

## II. CANCER OF PROSTATE; PARTIAL OPERATION

The results obtained in cancer cases by a conservative perineal prostatectomy (in which the urethra is preserved intact, the median and lateral lobes being shelled out from the capsule as completely as possible and the internal orifice of the urethra dilated with forceps) have been surprising. I have grouped them in classes.

*Class 1.*—Those with a "perfect" functional result; i. e., complete relief of urinary obstruction as long as the patient lived.

There are 5 patients in this class, aged 72, 64, 82, 55 and 57; prostatic symptoms had been present 6, 3, 7, 2 and 6 years, and the patients lived 3½, 2½, 2 years, 10 and 4 months, respectively, after the operation. The relief of the urinary obstruction and pain afforded by the operation in these cases was, indeed, splendid.

In these 5 cases the patients have been able to void naturally without hesitation in a fairly good stream without pain and have never required catheterization.

In one of the cases the patient did not have to get up at night to void. In others the interval was slightly shorter than normal, but the patient considered himself well as far as the bladder was concerned.

*Class 2.*—Cases in which the patients are still alive and completely relieved by the operation of conservative perineal prostatectomy.

There are 10 cases in this class, the patients being aged 60, 62, 61, 78, 67, 75, 67, 79 and 75; symptoms present 2, 2½, 15, 10, 4, 1, 1, 1, 4 and 1 year; and all ten patients alive and completely relieved 5, 1½, 1½, 1 year and 9, 7, 7, 4, 3 and 3 months, respectively.

Two cases were of interest because the carcinoma was localized in a small area in the prostate and apparently completely removed with the lateral lobes. Both of the patients are apparently completely cured now, 5 and 1½ years after the operation. In another case not tabulated here (operation by Dr. J. R. Caulk) a similar small nodule of carcinoma was found in the anterior commissure of the prostate. There are only 3 cases in which carcinoma was discovered extremely early. The case in which the disease has been present for 15 years was one of chronic prostatitis with a small area of carcinoma, and the case in which the symptoms had been present for 10 years was one of hypertrophy of the middle and lateral lobes with carcinoma of the posterior portion of the prostate.

The results in these cases have been extremely satisfactory. There has been no hematuria in any case since the operation and no evidence of vesical tumor formation. So far they bid fair to give good final results.

*Class 3.*—Cases of good immediate results, but subsequently recurrence of obstruction.

There are four cases in this class, the patients being aged 66, 66, 75 and 54; symptoms present 4½, 3½, 3 and 3½ years, respectively.

In the first case the median bar was not removed and a recurrence of the obstruction was to be expected. It is surprising that ten months elapsed before the patient had to begin the use of a catheter.

In the second case benign hypertrophy of the lateral and median lobes in front of the posterior layer of cancer was present. The operation was apparently complete, but obstruction recurred in six months. The patient is still alive, two years after the operation. The relief of obstruction in the third and fourth cases was also temporary (ten and eight months).

A survey of the 19 cases, grouped above, in which the operation of conservative perineal prostatectomy was performed shows no cases in which there was no benefit from the operation and only 4 cases in which almost complete and permanent relief was not afforded by the operation. Two cases were remarkable for the length of time (3½ and 2½ years) in which the patients lived in complete comfort, as far as the bladder was concerned, although the cancer spread upward involving the high pelvic structures, and in one case producing stricture of the rectum. Some of the cases in Class 2 bid fair to be as successful as the two above mentioned, as the patients are still in excellent health a year or more after the operation. Two cases are remarkable in that the patients have been completely cured by the operation. In these cases, however, the diagnosis of carcinoma was not made before operation and the carcinoma which was present in each case was simply a small nodule in one of the lateral lobes and completely removed by the operation. These two cases show the very great importance of early operation in hypertrophy of the prostate, even though carcinoma is not suspected. In both these cases, however, rectal examination showed distinct induration, greater than that usually seen in hypertrophy, thus demonstrating the importance of suspecting carcinoma in all cases where any portion of the prostate is markedly indurated.

The results obtained in these 19 cases (79 per cent. of lasting relief of obstruction) shows the very great value of this operation, of enucleation of the obstructing lobes, in cases of carcinoma in which the radical operation cannot be undertaken, but in which the patient is suffering with frequent, difficult or painful urination and catheter life is either impossible or very difficult, painful or burdensome. One is almost tempted to say that the operation is generally advisable, but I think it is better to try to get along without it, using the catheter, if necessary, until the conditions described above supervene, when the operation may be easily undertaken. Great care should be observed in preserving the normal structures, particularly the mucous membrane of the urethra and vesical neck, but the operation should be very thorough, particularly in the region of the median portion. The operator should be sure that the prostatic orifice is well dilated and should make an examination with the finger to see that all the obstruction has been removed and to palpate the trigone. If a considerable subtrigonal infiltration is discovered it may be advisable to remove it with the curette through the cavity left by the removal of the median bar; this was done in some of these cases. It is possible that in the 4 cases in which there was a recurrence of obstruction this recurrence was due to the fact that a mass of subtrigonal infiltration was not removed in either of these cases.

Two recent cases have not been included. In both of these, however, the immediate results have been excellent and the patients have left the hospital within three weeks, the fistula closed and the patient voiding naturally without pain. This makes 21 cases in which I have personally performed the operation of conservative perineal prostatectomy in cancer cases without a single death.

### III. BENIGN HYPERTROPHY AFTER PERINEAL PROSTATECTOMY

*Ages of Patients.*—In 339 cases of benign hypertrophy of the prostate which have been analyzed, the ages of the patients were as follows:

| | Cases. |
|---|---|
| Under 50 years | 12 |
| Between 50 and 59 years | 63 |
| Between 60 and 69 years | 145 |
| Between 70 and 74 years | 66 |
| Between 75 and 79 years | 41 |
| Over 80 years | 12 |

One of these patients was 88 years of age and one 87 years of age. As seen here the operation was not refused on account of the age of the patient (and I may say that it has been extremely rare to refuse to operate because the patient was too weak). In almost all cases in which it was unwise to operate at once, preliminary treatment was given, and if at the end of two or three weeks the condition was not desperate perineal prostatectomy was performed. In several instances it was done really as a life-saving measure with the hope that the better drainage afforded would save the patient, but at least 4 of my 13 fatalities was due to this, and since I have adopted a longer course of preliminary treatment for desperate cases this has not occurred.

*Marital State.*—Two hundred and sixty-two were married, 54 were widowed, 21 single and in 2 no record has been made on this point. This would seem to show that single men were more or less exempt from prostatic hypertrophy, and it is also borne out by the fact that in my first series of 145 cases there were 10 Protestant ministers, all of them married, and not a single Catholic priest.

In this series also statistics show conclusively that gonorrhea cannot be considered a causative factor, there being in 145 patients only 46 who admitted having had gonorrhea and in only 8 cases were strictures present. In only a few cases was there a history of a chronic prostatitis extending up to the time of the beginning of symptoms of hypertrophy, so that it seems evident that chronic inflammation does not play an important rôle in the etiology and that sexual activity does.

*Time Since Operation.*—In the following tabulation of results I have included only cases in which the operation was performed over four months ago. I have thus excluded 14 cases of more recent date, in some of which the patients are in the hospital, but all of which are apparently going to give excellent results. Among the 327 operative cases I have been able to hear from 250 patients (and these are alone included in the various tabulations below). This does not include the reports in regard to patients who have died since leaving the hospital, which will be considered separately. The time elapsed since operation is given in the following table:

| | Cases. |
|---|---|
| 4 to 6 months | 13 |
| 6 to 11 months | 27 |
| 12 to 17 months | 42 |
| 18 to 23 months | 22 |
| 24 to 30 months | 24 |
| 30 to 35 months | 14 |
| 3 to 4 years | 38 |
| 4 to 5 years | 41 |
| 5 to 6 years | 24 |
| 6 to 7 years | 5 |

As noted here, in 146 cases (about 60 per cent.) more than two years have elapsed since the operation, so that ample opportunity has been afforded for obtaining the ultimate results.

*Time of Closure of Fistula.*—This is shown in the following table:

| | Cases. |
|---|---|
| 1 week | 11 |
| 2 weeks | 44 |
| 3 weeks | 70 |
| 4 weeks | 45 |
| 5 weeks | 19 |
| 6 weeks | 9 |
| 7 weeks | 3 |
| 8 weeks | 10 |
| 3 months | 12 |

As noted here, in 50 per cent. of the cases the fistula closes in less than twenty-one days, and in 22 per cent. of the cases inside of fourteen days. In one remarkable case there was never any leakage of urine through the perineum after the removal of the tubes on the second day after the operation, and in 2 cases none after the fourth day. In 8 other cases the fistula closed within the first week, and this in spite of the fact that these patients were out of bed on the third day after the operation and generally walking during the first week. As noted in this list, in only 10 per cent. of the cases was the fistula present after the sixth week. In a few instances the fistula persisted for several months, but there are only 2 cases in which the fistula is still present after a prolonged period. In one of these a perineal urinary fistula is still present, two and one-half years after operation. The patient has symptoms strongly suggestive of vesical and probably prostatic calculi, but cannot be induced to return for examination. The second case, in which a perineal urinary fistula is present, is one in which a tear was made into the rectum during operation, and, although immediate closure was performed, a recto-urethral fistula has persisted. This is the only recto-urethral fistula which is present, though not the only case in which the rectum was accidentally injured at operation. When it is so injured it is almost always the operators' fault unless there be extensive perineal scar tissue,in which case the perineal operation should be avoided. As a rule, no difficulty whatever is experienced in separating the prostate from the rectum.

*Length of Stay in Hospital.*—As showing the benignity of the operation, the following table of length of time in which the patient remained in the hospital is very instructive:

| | Cases. |
|---|---|
| 6 to 13 days | 8 |
| 14 to 20 days | 61 |
| 21 to 27 days | 74 |
| 28 to 34 days | 52 |
| 35 to 42 days | 28 |
| 7 to 8 weeks | 14 |
| 8 to 9 weeks | 3 |
| 9 to 10 weeks | 0 |
| 10 to 11 weeks | 2 |

As shown here, there were 8 patients who left the hospital in less than fourteen days, one on the sixth. In all these cases the results have been excellent and the patient felt so well that he insisted on leaving. In 28 per cent. of the cases the patient did not remain three weeks, and in 60 per cent. of the cases the patient went home by the end of the fourth week. Only 2 patients in 251 remained longer than two months.

It is, indeed, remarkable to see how rapidly these very old and often very infirm men convalesce. After the second week they are generally fretful to get home, and about the only thing that keeps them is waiting for the fistula to close. The fact that in most cases only a few drops of urine escape through the fistula during urination after the first ten days makes it very difficult to restrain them from departing before the fistula closes completely.

*Functional Results.*—Answers have been received from 241 patients. In interpreting these it must be remembered that in a large proportion of cases a polyuria is present, the amount of urine voided in twenty-four hours being considerably more than that in younger men and the specific gravity considerably less. This polyuria is most marked at night. In one of my cases only 10 ounces of urine is eliminated during the day, though 60 ounces are passed during the night. This polyuria will account for many of the cases in which urination is as frequent as every two to three hours; notwithstanding this frequency the patients consider themselves well. In other cases the increased frequency is due to long-standing cystitis with contracture of the bladder. This is almost always present, often permanently, in cases in which a calculus has been present before operation. (Calculi have been found in about 16 per cent. of the cases.) The two cases in which urination still occurs at intervals of half to one hour were characterized by contracted bladder, severe hemorrhagic cystitis, chronic prostatitis and marked pain. The operation was performed in the hope of giving some relief, and, although the obstruction which had previously been present has been removed, the patient still suffers from vesical irritability and frequency of urination.

In almost 65 per cent. of the cases the interval is about four hours, and 46 patients do not have to arise at all at night to urinate; 222 patients state that they void urine naturally; 15 patients say that urine is voided almost naturally, there being slight hesitation or slowness of stream.

I have made careful inquiries as to the use of catheters and find only 2 patients in whom there is almost complete retention of urine, requiring a catheter about three times daily. Cystoscopy several months after the operation, showed, in both cases, a small remaining median bar, and it seems probable that this is causing the obstruction. In these 2 cases (which I have not been able to see) there was a return of obstruction several months after operation. Both of the patients required catheterization when last heard from. A fourth patient returned the other day and a catheter found 450 c.c. residual urine, although the patient was voiding quite normally and at intervals of two to three hours. The cystoscope showed a very small transverse median bar and this was excised, under cocain, with the "urethroscopic median bar excisor or punch" which I have recently devised and employed with considerable success in about 14 cases. I have examined as many cases as possible at my office, and in a few instances have found from 30 to 50 c.c. residual urine. These patients, however, are very comfortable and void freely. In one case residual urine seems to be due to a diverticulum in the right half of the bladder.

In my first series of 145 cases the catheter was employed on entrance by the patient in 105 cases, in 35 on account of complete retention of urine, and in 70 cases, although the retention of urine was incomplete, the catheter was used irregularly. It is fair to assume that in this latter series the proportion of cases requiring the catheter before operation was about the same. Physicians have become alive to the dangers of a catheter life, but not to the great damage done by a large amount of residual urine. A catheter life is greatly preferable to an increasing back pressure on the kidneys. Early operation is the great desideratum.

I believe that in all cases retention of urine after the operation is due to an incomplete enucleation and is the direct fault of the operator. There have been only 3 cases in 339 in which a catheter has been required since operation. This series, I believe, shows conclusively that it is easy to remove all obstruction and to furnish complete restoration of normal urination by means of perineal prostatectomy.

It is interesting to note the relief from pain which has been given by the operation. Two hundred and forty-two patients say that they have no pain at all and 15 complain of only very slight pain. Several patients complain of irritability of the urethra; 2 patients with chronic prostatitis complain of severe pains in the back and hips, and one patient with multiple diverticula complains of severe pains in the rectum. Aside from these, the patients have been apparently completely relieved of pain (which was considerable before operation in a large proportion of cases).

To the question, "Have you been cured by the operation?" 222 out of 250 reply that they are absolutely cured. Twenty-one patients state that they are almost cured and one patient that he is improved. There is not a single patient who reports that he has been unimproved by the operation, although a few cases, in which the principal symptoms were vesical irritability, frequency of urination, and pain with contracture of the bladder have not been entirely relieved, although urination has become much more satisfactory with the removal of the obstructing median bars. This small group represents some of the most unsatisfactory cases in genito-urinary surgery, which generally require months of local treatment to the seminal vesicles, prostate, urethra and bladder.

*Incontinence.*—Definite incontinence is present in only 2 cases. One of the patients is a man now 84 years of age who had an immense prostate weighing 300 gm. He had previously had a suprapubic operation, and on account of the great size of the prostate the operator had refused to remove it. During my perineal operation the patient became very weak and the deep portions of the prostate had to be removed hastily, and in so doing the vesical neck and possibly some of the perineal muscles were injured or lacerated. The patient is able to retain urine while recumbent and does not wet the bed at night, but when he is on his feet there is a continuous dribbling. I have not had a chance to make a cystoscopic examination.

The second patient is a man, 65 years of age, who had complete retention of urine. Cystoscopic examination showed a peculiar orifice with several rather deep sulci. The operative note says that the urethra was so thin that after the lateral incisions were made the ejaculatory bridge tore away anteriorly and the prostate was about to come away in one mass, the lateral and median portions together. The lateral lobes were removed separately and then the median lobe was removed after dividing the urethra transversely just in front of the median lobe and stripping it up anteriorly and posteriorly. Examination then showed a dilated lacerated prostatic orifice and a suture with catgut was taken. Two months later the patient complained of incontinence when on his feet, and the cystoscope showed a markedly dilated internal sphincter with a wide cleft posteriorly. A recent letter says that he voids urine naturally and occasionally can hold it all night without wetting the bed. When on his feet he is apt to dribble, though occasionally he can hold urine for four hours.

In both of these cases the operation performed was not according to my usual technic; much more traumatism was done to the vesical neck in both cases, and it seems probable that this is responsible for the incontinence when the patient is on his feet.

There are other cases in which the retentive power is not as strong as the patient would wish. In one case the patient's physician writes that he thinks there is a stone present. It is now five years since the operation. Another patient operated on eight months ago has, every few days, a slight leakage of a few drops of urine, sometimes as much as fifteen or twenty, once or twice during the day. He is able to retain urine for five hours and does not get up at night to urinate. The cystoscope shows a very slight elevation in the median portion of the prostate, which is somewhat irregular. The prostatic urethra is much dilated, and it seems probable that urine occasionally collects in this, is not evacuated completely at urination and afterward escapes through the external sphincter. The patient is improving steadily, however.

The third patient, aged 74, had previously had an internal urethrotomy, a Bottini operation and a suprapubic operation. The prostatic orifice was extremely irregular, and there were deep clefts left by the Bottini. He returned two years after the operation, saying that occasionally there was a slight dribbling and that he was generally able to retain urine for two or three hours. Cystoscopic examination showed that the internal orifice was irregular and somewhat dilated, and in front of it were two or three small urethral prostatic lobulations. With the cystoscopic rongeur these were removed and the patient reports that now, five weeks after this operation, he is practically cured.

In a fourth case the bladder is contracted and its greatest capacity is only 4 ounces. The patient voids urine at intervals of one to one and a half hours, the largest amount passed at one time being 2 ounces. If he voids urine every hour there is practically no leakage, but if he does not there is. He is now 77 years of age.

Two patients had incontinence of urine before operation. One patient was a young man and the bladder contracted, but the cystoscope showed a slight median bar, and the operation was done in the hope that removal of the obstruction would allow the bladder to dilate. The operation was not successful, and incontinence has been a little more marked since operation. The patient is able to void urine at intervals, but if he does not go quickly he is unable to hold it, and on account of a contracted bladder urination is very frequent.

The second patient is a man who had only 180 c.c. residual urine, but continuous incontinence at night and occasionally also during the day before operation. A neurologic examination showed markedly exaggerated reflexes, suggesting spinal-cord trouble. The cystoscope showed a rounded median lobe; this was removed at operation, and the residual urine has disappeared, but the incontinence persists, though at present he says it rarely amounts to more than a few drops. "During the day I void every two or three hours; sometimes I go as long as five hours." The cystoscope showed, several months ago, an irregular somewhat dilated internal orifice.

I have thus mentioned in detail all these cases hoping that they might throw some light on the question of vesical control. As shown by these statistics, if the operation is carefully done one need not fear incontinence of urine. It seems to be important to preserve the floor of the urethra in the region of the median portion of the prostate. Whether this is due to the nerve-supply or to muscle-tissue which it may contain is uncertain. Contracture of the bladder, severe cystitis with inflammation of the prostatic urethra, probably play an important part in the cases of marked urgency of urination which have just been mentioned, the patients being unable to restrain the outflow of urine when the desire comes on. These cases are not true incontinence, but are often troublesome and difficult to cure. In contradistinction o the cases mentioned above are many cases of incon-nce which have been cured by the operation. These e almost always cases with large amount of residual urine and an irregular prostatic orifice. The removal of the enlarged prostatic lobe usually allows the internal sphincter to contract sufficiently to close the orifice completely and continence is regained. One interesting case was that of a man of complete incontinence of urine, locomotor ataxia, 370 c.c. residual urine, a small globular median lobe. The operation was undertaken in the hope that on the removal of the median lobe the orifice would contract sufficiently to cure the incontinence. A recent report, now almost two years since operation, says that the patient is able to retain urine for six hours; hat he voids 300 c.c. at a time, and that there is no continence. It not infrequently happens that there is a slight weakness of the sphincter for several months after the operation, but, as noted above, in practically all of the cases this completely disappears, and inside of a year the patient, who feared that he was going to have some incontinence, is able to retain urine perfectly. In effecting this restoration of sphincteric control Alexander's plan of voluntarily exercising the muscles (by stopping the flow of urine several times during urination) is of very great value.

*Recto-urethral Fistula.*—There is only one case in which a recto-urethral fistula is present. This patient had previously had a perineal prostatectomy and a tear was made into the rectum, which, although sutured at operation, failed to heal. In a few other cases the rectum was torn, but was successfully sutured, and there has been no recto-urethral fistula since. If one is careful to follow the anatomic landmarks, to divide the recto-urethralis muscle close to the triangular ligament and to separate the rectum from the posterior surface of the prostate with care according to the technic described, there is practically no danger of rectal injury unless the cicatrix of a previous perineal operation or marked periprostatic adhesions exist. If the rectum is injured a suprapubic operation should be done so as to divert the urine.

*The Effect of Perineal Prostatectomy on the Sexual Powers.*—Letters with numerous questions in regard to the effect of the operation on erections, coitus, the act of ejaculation, etc., have been sent out to all my patients by Dr. John R. Caulk. He has made a careful summary of the present condition in comparison with that before operation, and I quote at length from his report as follows:

Seventy-six patients, who had stated before operation that erections and intercourse were normal, replied. Of these, 39 say that their sexual powers are unimpaired, erections and coitus being normal. Five say that erections are normal, but that they have not attempted sexual intercourse; 10 that erections are somewhat impaired, but intercourse is nevertheless indulged in and fairly satisfactory; 4 that erections are somewhat impaired, but coitus is not attempted; 5 that erections are present, but so much impaired that coitus has been found impossible; 13 report that erections have not as yet returned; many of these are of the more recent cases.

Among 10 patients who had had normal erections before operation, but did not attempt coitus, 5 report that erections are normal and that intercourse is now indulged in and is normal; 1 that erections are normal, but coitus has not been attempted; 4 that erections have not returned.

Of patients with erections impaired before operation, but coitus still possible, 44 were heard from; of these, 4 have normal erections and coitus; 20, erections impaired, but coitus possible and about the same as before operation; 8, erections impaired, but coitus not attempted; 1, erections impaired, coitus impossible; and 11 that erections have not returned.

There were 13 patients with imperfect erections and coitus not attempted before operation. Of these, 3 report that erections and intercourse have become normal since operation; 7 that erections are still impaired and intercourse not attempted; and 3 that erections have not returned since operation.

There were 10 patients who could not have coitus before operation on account of imperfect erections. One of these reports that erections are now normal and coitus satisfactory; 1 that erections are still impaired and intercourse not attempted; 2 that intercourse is impossible on account of feeble erections; and 6 that erections have not reappeared.

Of 48 patients who had completely lost the power of erections before operation, 2 report that erections and coitus have become entirely normal since operation; 2 that intercourse is fairly satisfactory, but erections are imperfect; 3 that erections are impaired and intercourse not attempted; 3 that erections are impaired and intercourse impossible, and 38 that erections have not returned since operation.

Unfortunately no note was made as to the presence of erections before operation in a good many cases, and some of the other patients refused to answer our questions. We think, however, that the above statistics give a very fair idea of the results obtainable by a conservative perineal prostatectomy in which the ejaculatory ducts and the floor of the urethra are carefully preserved. As the time after operation lengthens the percentage of perfect restorations of sexual powers increases considerably, and it is fair to state that ultimately in about 80 per cent. of the cases in which the sexual powers were normal before operation they finally become normal after operation. Very interesting, indeed, is the demonstration, given in the later paragraphs above, that in quite a number of cases in which intercourse was impossible before operation on account of impaired or absent erections there has been a complete restoration of the sexual powers as a result of the operation. In a few instances in which the patient complained of an impairment as a result of the operation a urethroscopic examination has shown considerable enlargement and inflammation of the verumontanum. A few applications of the nitrate of silver stick has been followed by a return of the erections, and it seems probable that decline in sexual vigor is due largely to disturbances of the verumontanum as in sexual neurasthenias of younger men.

*Mortality.*—There have been 13 deaths after the operation. This includes every patient who died in the hospital, regardless of the length of time after the operation. Among these 13 there have been only 2 patients who died during the first week, both of them at the end of forty-eight hours, one of acute edema of the lungs and the second of cerebral hemorrhage. In the latter case the patient had had a previous stroke and was in a highly nervous condition before operation, trembling with excitement when the ether was begun, but insisting on having the operation without delay, which he said he could not stand any longer. He never regained consciousness after operation, and examination on the following day showed paralysis of the right leg and arm. There were two deaths during the second week, one on the eighth day of secondary hemorrhage. In this case there was a contracted bladder with a large vesical ulcer and the hemorrhage seemed to come from the bladder. The other patient died on the tenth day from continuous vomiting. He had been subject to attacks of this sort for several years, and autopsy showed extensive dilatation of the kidney pelves, thinning of the cortex and marked destruction of renal tissue. Six patients died during the third week. One who was in excellent shape and almost ready to leave the hospital was given a high enema and collapsed immediately afterward. Autopsy showed pulmonary embolism. The second had suffered from uremia for a long time, and autopsy showed double hydropyonephrosis. The third died of uremia. In this case there was a large residual urine before operation, and the patient did not get the preliminary treatment, continuous catheterization, etc., which is now used. The fourth patient, 79 years of age, died of uremia on the eighteenth day, and the symptoms all pointed to severe kidney lesion. The fifth patient was a man 73 years of age who died of hypostatic congestion of the lungs. The patient was in desperate condition before operation, which should have been delayed. The sixth patient was a man 87 years of age, who had an excellent result from the operation, but acquired pneumonia on the twenty-first day and died on the twenty-fourth day. Autopsy showed consolidation of both lungs.

Two patients died during the fifth week, one, aged 73, of uremia, autopsy showing double pyonephrosis. The second patient, aged 81, died on the thirtieth day from exhaustion, congestion of the lungs and probably uremia. In this case the bladder was very greatly distended before operation. He had not used a catheter and he was not given the preliminary treatment as at present. The thirteenth death was that of a man 88 years of age who had been using a catheter for twenty years and had 14 large stones in the bladder. He died during the eighth week after the operation, when preparing to go home the next day, of successive hemorrhages from the nasopharynx.

A survey of these thirteen operative deaths shows that most of them were, in fact, accidental and not directly attributable to the operation, but, as they occurred after the operation, I feel that they should be included. Although this report includes a period of over six years and many of the patients were very aged men, 12 being over 80 years of age and 109 over 70 years of age, I have been able to get reports of the death of only 38 patients since leaving hospital, there being only 9 cases in which I have been unable to get any recent report. Among these 38 patients who have died since operation there were 11 deaths which occurred within the first six months after operation, 3 between six months and a year, 8 during the second year, 6 during the third year, 6 during the fourth year, 2 during the fifth year, 1 during the sixth year, and 1 during the seventh year. The operative results obtained in these cases are said to have been excellent in 28, good in 3, improved in 5 and poor in 2, in both of which the patients had to use a catheter occasionally before death.

The causes of death were: accident 2, pneumonia 2, uremia associated with myocarditis 4, apoplexy 5, "stomach trouble" 2, acute Bright's disease 1, "spinal-cord disease" 1, pyonephrosis 3, dysentery 1, sudden death, cause unknown 1, uremia with malaria 1, pericarditis 1, heart failure 2, acute edema of the lungs 1, secondary suprapubic operation for vesical calculus 1, cancer of the stomach 1, suicide 2, cause unknown 7. Among the 9 patients who have not been heard from recently, the result was good when leaving the hospital in all cases, and in most of them subsequent reports were obtained several months after the operation which showed that the condition was maintained.

*Percentage of Mortality.*—Including cases of cancer of the prostate in which the typical operation of conservative perineal prostatectomy was employed, 13 recent cases which have not been tabulated above, 20 cases in which operation has been performed since this paper was written several months ago, and a few cases in which the technic was not the typical one and which have not been tabulated above there have been 400 cases of perineal prostatectomy with 13 deaths, a mortality of 3.25 per cent. All deaths occurring in the hospital, regardless of the time after operation, have been included; no patients sent home to die. During a period of two years and eight months 128 consecutive cases were subjected to the operation of conservative perineal prostatectomy without a single fatal result—all the patients returning to their homes. Forty-three of these 128 patients were over 70 years of age and two were over 80 years of age.

These facts are, I think, sufficient to show that the operation is in itself quite free from danger, and that if preliminary continuous catheter drainage is given, for two or three weeks, to those patients with large residual urine (over 500 c.c.) who have not been previously catheterized regularly at least three times a day, the mortality should be almost *nil*. The operation should be done early, before the residual urine has become large, as this is the greatest danger. In determining the functional capacity in these cases we have found phenolphthalein of great service.

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# A CASE OF PELLAGRA *

WILLIAM A. HALEY, M.D.
HOUSTON, TEX.

*Patient.*—A woman, aged 51, past the menopause, the mother of five children, without specific history or history of any special sickness, consulted me in April, 1909, in regard to a "bad feeling," as she termed it, which began about five years before observation (April, 1909). She had lived in the country and in small towns until the family moved to Houston about two years before the time of examination. She was not well nourished and had a "muddy" complexion. She showed marked deliberation in moving and answering questions.

*General Treatment and Course of Disease.*—I considered the case one of neurasthenia and general debility; prescribed a course of tonic and upbuilding treatment, including the administration of glycerophosphates and Fowler's solution, the use of a nutritious diet, cold shower-baths, massage, exercise and a sojourn of a few weeks in the country. On the suspicion that there might be some latent malarial element, I also prescribed quinin and small doses of calomel. The patient did not improve but continued to lose weight. Ten or twelve weeks after the physical examination a blood examination was made, which showed no malaria, the hemoglobin 60 per cent., relative leucocytosis, but no further abnormality. Several fecal examinations were made in search for the hook-worm or their ova but none were found. Some time during the middle of September the patient mentioned an eruption about the mouth and soreness of the tongue, which I attributed to the wearing of false teeth. I ordered a mouth-wash, which failed to give relief. Later the patient mentioned an eruption on the back of the hands. This for the first time suggested the diagnosis of pellagra. A marked exaggeration of the patella tendon reflex and ankle clonus was noted. Nothing could be learned about the patient's use of corn-bread, but later I gave her hypodermic injections of atoxyl, half a grain to begin with, increasing to three-fourths of a grain every other day. I also gave Blaud's mass, with arsenic and strychnin. The local condition on the hands, around the mouth and in the mouth improved under this treatment, also the number of bowel movements was reduced from three to six, to one and two in twenty-four hours. (I should have said earlier in this report that among the marked symptoms were slight pain in the stomach and frequent passages from the bowels—four, six and eight on some days.) There seemed to be no improvement in the psychosis, which had developed about the time that I made the diagnosis. The patient continued to lose weight. Just before I began the atoxyl treatment I was called in the night to see the patient, on account of a "sensation of floating," as it were. The patient was considerably distressed; her temperature was 99; pulse 85. I gave a hypodermic of an eighth of a grain of morphin. After a little while the patient was relieved. The atoxyl treatment was kept up at intervals for about a month, and was finally discontinued. On account of some ocular disturbance, which was, no doubt, not entirely due to the atoxyl, I then administered thyroid extract. There was no benefit; the patient continued to grow worse, and was confined to her bed most of the time for three weeks before transfusion was done. Dr. H. P. Cole of Mobile, Ala., being called in consultation because of his experience with this disease, concurred in the diagnosis.

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* Read before the Harris County Medical Society, at Houston, Texas, Jan. 8, 1910.

*Transfusion.*—This was done Dec. 22, at 4:45 p. m. The donor was not a cured pellagrin, but a healthy man, aged 22, a relative of the patient. The method used was direct communication of the radial artery of the donor with the anterior ulnar vein of the patient, under cocain infiltration, 1½ drams of 0.1 per cent. solution for each, the donor and the patient, preceded by a hypodermic injection of morphin. At the time the transfusion was begun the pulse of the patient was 85 and the temperature 99; after it had proceeded about fifteen minutes, the patient mentioned a sensation of warmth about the body; the veins in the forehead and about the face began to be a little distended. At the end of twenty-two minutes and a half the patient now and then took a deep breath; showed slight cyanosis and some restlessness; the pulse had reduced to about 80 per minute. The transfusion was now discontinued. The effect on the donor was slight; he asked for a drink of water at the end of about fifteen minutes; had a slightly intermittent pulse; showed a little pallor about the lips and face. He rested about three or four hours after the transfusion, and suffered no ill effects.

*Postoperative History.*—The patient rested fairly well for a few hours after the transfusion; nausea and vomiting began a little later the same evening. She slept about one hour during the night. At 3 a. m. temperature was 99 and pulse 75; the patient continued to vomit at intervals; had to be catheterized in the morning. The day following the transfusion, at 3 p. m., temperature was 101; pulse 78; the patient vomited brown material; and brown material was passed from the bowels. The patient was not able to take any nourishment by the mouth. All fluids were discontinued by the mouth and nutritive enemas and saline solution were given per rectum. The second day nausea and vomiting continued. The pulse was 88 and the temperature 99; at 4 a. m. the temperature was 102.8, this being the highest temperature of the patient; the pulse was 80. From that time there was a gradual decline in temperature and pulse, with occasional slight elevations, but never going back as high as above stated. One-thirtieth grain strychnin was administered hypodermically every three or four hours; the patient slept at intervals but continued to vomit, though after the second day did not vomit the brown material. The strychnin and nutritive enemas were continued and saline subcutaneous solution given. The third day after the transfusion of blood the patient was able to take a limited amount of nourishment by the mouth; sat up two hours; temperature was 99; pulse 89. The patient seemed to be doing well until December 29, the seventh day after the transfusion, when she was weak and depressed; temperature was 97; pulse 80; the skin was cold and clammy. On December 31 the patient lapsed into a state of coma. Dr. Cole saw the patient again in consultation and suggested an intravenous infusion of physiologic salt solution. This was administered two or three times during the day, with a small amount of adrenalin solution added. The patient rallied slightly, but never regained consciousness; there was a quick response of pulse, respiration and temperature. The temperature went up to 101.4, pulse 110, with a gradual decline of pulse after the intravenous infusions were discontinued. The cardiac centers but not the respiratory center seemed to be involved, for at the time of the intravenous infusion the pulse could not be felt at the wrist; the heartbeats could scarcely be heard with the stethoscope, yet the breathing was fairly regular until toward the end; then the heart's action suspended entirely; later, the breathing. The patient died December 31, at 8:15 p. m. During the last few days of the sickness it seemed as though all the symptoms of the disease, except the mental symptoms, were markedly exaggerated; with a return of inflammation of the tongue, mouth and the eruption around the mouth and on the hands, together with a cracked condition of the skin on the back of the hands; an intense burning sensation in the feet, while the patient was sufficiently conscious to make mention of such sensation.

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# DERMATITIS FOLLOWING VIOFORM

E. W. POTTHOFF, M.D.
OAK PARK, ILL.

Mrs. N., aged 58, suffering from varicose ulcer, lower third, right leg, was under the care of her family physician for some time. Among the various drugs used was vioform. A few hours after applying this preparation a dermatitis developed which soon became generalized, with all of its concomitant symptoms and in addition both limbs showed below the knees an extensive purpura. This condition cleared up very quickly under withdrawal of drug and proper treatment.

I report this because I think that it is the first case of dermatitis following the use of this drug to be published.

1139 Austin Boulevard.

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# REPORT OF A CASE, POSSIBLY, OF PELLAGRA

J. SIDNEY EASON, M.D.
SAVAGE, MISS.

*Patient.*—Mrs. H., aged 34, wife of farmer living in delta.

*History.*—There is nothing of note in the family history. The patient had had the diseases of childhood. She began to menstruate at 14, and has always suffered with dysmenorrhea. In 1905 she was operated on for salpingitis and since that time has had leucorrhea. In the past three years she has suffered from indigestion and constipation. In 1907 an erythematous eruption appeared on the right foot and spread up to the knee; it was treated as erysipelas. The eruption soon disappeared, leaving the patient extremely nervous and excitable.

*Present Illness.*—With these exceptions she seemed well until April 10, 1909, when I was called and found her suffering from diarrhea of a severe character. She complained of vertigo, dizziness, and great pain over the right iliac region, and extending up under the right breast. Temperature was 101 F.; pulse ranged from 130 to 135.

Two days later an eruption resembling erysipelas appeared just below the breast; it disappeared on the second day, and appeared on the right foot as a desquamative erythema, and gradually spread as far as the knee. The patient was poorly nourished, the hair looked dry and lifeless and the skin everywhere had a thick, sallow appearance. Heart and lungs were normal, liver and spleen were enlarged; tongue was heavily coated. The urine was of a deep color but was otherwise normal, though there was great pain on urination. The patient presented generally an appearance of profound melancholia, changing at times to wildest mania, when it was necessary to hold her in bed. She would not talk but often cried out as if wild or in severe pain. The entire body was in a condition of tonic spasm.

*Course of the Disease.*—The eruption, at first moist, became very dry and darker in color. The skin cracked and on the leg large sloughs separated, leaving raw bleeding surfaces over which new skin formed of a rough wrinkled appearance. The mental and nervous symptoms improved as the patient gained strength and she is now up and seemingly well, though she is still troubled a great deal with indigestion and dysmenorrhea.

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# NITROGLYCERIN HEAD

C. E. LAWS, M.D.
DU PONT, WASH.

"N. G. head" is a term well known to all who are engaged in the manufacture and use of high explosives. Those who are most frequently and severely affected are men employed in dynamite and gelatin factories, miners and excavators who do blasting.

The nitroglycerin enters the system through the skin, respiratory and alimentary tracts. A man who is working in "powder" may cause another person a great deal of misery by simply shaking hands or by permitting articles which he has been using to be handled by the other. A worker frequently carries some of the drug to his home in his clothing and may make his whole family sick. Sleeping in the same bed or the wearing of contaminated clothing will likewise produce effects. Miners and men in the magazines, especially on hot days, are poisoned by the fumes. It frequently becomes necessary to taste the nitroglycerin, and symptoms quickly manifest themselves.

*Symptoms.*—Within a period ranging from a few minutes to an hour or more after exposure the person experiences a sense of heat with fulness in the head and possibly a flushing of the skin. If the heart is examined now an increased action will be noted, but this is followed by a marked retardation. One premonitory symptom noted by many is a complete loss of vision either in one or both eyes, the headache not coming on until complete restoration of sight. The most distressing and dreaded symptom is the headache which rapidly supervenes. Owing to the direct action of the drug on the muscular coats of the arteries there is a marked dilatation of these vessels. To this dilatation of the vessels of the brain and cord may be laid the cause of the throbbing which the poor sufferer experiences. He holds his head between his hands to relieve it, and when he steps on the ground or attempts to stoop over he often cries out with pain. Sometimes he becomes maniacal, running about, shouting and striking his head against obstacles. The recumbent posture is often unbearable and he must pass his time in the upright position, sleep being out of the question. The pain is sometimes located in the back part of the *cranium*, sometimes it is frontal and at others general. The duration of an attack is from a few hours to one or two days. Nausea and vomiting with loss of appetite are frequent symptoms.

The genitourinary system comes in for its share of disturbance, too, there being frequent urination with the passage of large quantities of light colored urine of low specific gravity. Nitroglycerin is a marked aphrodisiac and most "glycerin men" have large families.

The effects of the drug are interesting. All who work in it are sooner or later troubled with dyspnea and tachycardia on exertion. Alcohol causes a flushing in some that very much resembles scarlet fever. Others are unable to touch it at all and it is a well known fact that "powder men" become easily intoxicated.

I am unable to say what effect it has on the length of life, but I know several men who have been in the business for many years, one in particular who enjoys excellent health after twenty-five years' service, with the exception of shortness of breath on any undue exertion. There is an increase in the area of heart dulness and a rather slow pulse.

Some people enjoy a natural immunity to the action of the drug while others must acquire it and the process is painful. After being out of it for one day sometimes, a man goes back to work and becomes sick. This attack, however, is comparatively slight and he can continue without much inconvenience. Others, while not working, will rub a small amount into the skin or keep some on the hat band so that they may always be in condition.

*Treatment.*—This is most unsatisfactory, and there is apparently nothing that will give the poor sufferers relief. In slight cases in those who are more or less accustomed to the drug, a hearty meal and a good sleep will straighten them out, but in the severe cases all the remedies suggested, such as phenacetin, chloroform, morphin, etc., have little or no effect. Hot baths do well in some cases but a warm atmosphere aggravates the symptoms. Many "patent-medicines" have been recommended but none of them are of any use.

It is said that nitroglycerin was at one time exploited as a cure for headache and it probably did well in chronic renal degeneration with high tension pulse.

I can find no mention of an antidote in the literature and if any one should discover it he would at least have the gratitude of many thousands of "powder men."

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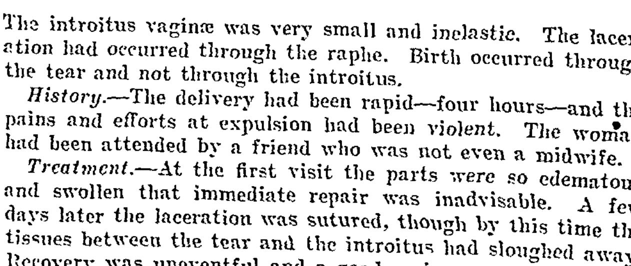
# AN INTRAPERINEAL TEAR

A. PIETRI, M.D.
PONCE, PORTO RICO

*Patient.*—At 2 o'clock one afternoon I was called to see a woman who had given birth to a 20-inch normal child early that morning. The woman was a primipara, aged about 20, and of healthy, strong constitution.

*Examination.*—On examination I found an ugly tear through the perineal floor in the median line, not extending to the anus or involving the vaginal outlet. The approximate position and size of the laceration are shown in the accompanying diagram.



The introitus vaginæ was very small and inelastic. The laceration had occurred through the raphe. Birth occurred through the tear and not through the introitus.

*History.*—The delivery had been rapid—four hours—and the pains and efforts at expulsion had been *violent*. The woman had been attended by a friend who was not even a midwife.

*Treatment.*—At the first visit the parts were so edematous and swollen that immediate repair was inadvisable. A few days later the laceration was sutured, though by this time the tissues between the tear and the introitus had sloughed away. Recovery was uneventful and a good perineum was secured.

32 Isabel Street.

# Therapeutics

## THE DRUG TREATMENT OF ALCOHOL, MORPHIN AND COCAIN HABITUÉS

The treatment of acute alcoholic excess is pretty generally understood and generally well carried out. The removal of the craving for alcohol and the length of time that the patient will abstain from alcohol depend largely on the suggestions of the treatment, the physician in charge and the character of the institution in which he was treated. In other words, it is largely mental impression.

The drugs used in the treatment of the alcohol habit have generally been kept secret, but atropin in some form has been frequently used and seems to have the greatest success to its credit.

Dr. Alexander Lambert, of New York, published his method of treatment in The Journal, Sept. 25, 1909, and has again discussed it in the *New York State Journal of Medicine*, January, 1910. He has long made careful study of alcoholics in his hospital wards, and speaks with authority, and lauds the treatment with which he has had great success.

He finds that during the last twenty years young men are less likely to become alcoholics than older men, as *there has been such a tendency, in many occupations,* not to employ men who were addicted to the use of alcohol. Lambert finds alcoholics most likely to be among men who work overtime or under great strain, as "journalists, actors, and physicians." Sometimes "clerks, bookkeepers, accountants, and stenographers," who are looking for excitement, get into the alcohol habit. Also occupations that cause great physical exhaustion, as "stokers, firemen, blacksmiths, iron and brass molders," and those who are working over furnaces or in heated places become alcoholics. Another class who tend to drink too much are those who at times work hard, this to be followed by a period of idleness, as "hostlers, hackmen and teamsters." Among women, "domestic servants and prostitutes" head the list.

As Lambert well says, the mere temporary cure of the desire for alcohol should be by no means the end of the treatment of the patient. This, however, is a moral and social question that would be inappropriately discussed here. The craving for alcohol can undoubtedly be removed in patients who do not have periodic attacks of this desire (such a condition being a nervous affection that is not now under discussion). Consequently these patients deliberately try their ability to withstand just a taste of alcohol, and, having taken this taste, quickly again fall into the habit.

Lambert gives credit to Mr. Charles B. Townes for the medicinal treatment which he uses to deprive a patient of the alcohol, morphin or cocain habit. This prescription consists of:

℞.

| | c.c. | |
|---|---|---|
| Tincturæ belladonnæ (15 per cent.)..... | 20 | fl.ʒv |
| Fluidextracti hyoscyami ................ | 10 | or |
| Fluidextracti xanthoxyli ............... | 10 | āā, fl.ʒiiss |

M. et Sig.: Administer as directed.

Lambert emphasizes the necessity of carrying out his treatment absolutely to the letter, and an important part of the treatment is profuse catharsis. In alcoholics "from 6 to 8 drops of the above prescription are given every hour, day and night, until either the patient shows symptoms of belladonna excess, or from the cathartics the characteristic stool." The dose of the above "is increased by 2 drops given every six hours until 14 to 16 drops are being taken; it is not increased above 16 drops." Lambert says that "usually an alcoholic can be given 4 compound cathartic pills at the same time that the specific is begun. After the drops have been given for fourteen hours, a further dose of compound cathartic pills is given, either 2 or 4, depending upon the amount of action obtained from the previous pills. If the first pills have caused abundant action, only 2 are now necessary. At the twentieth hour of the drops, from 2 to 4 more compound cathartic pills are given, and after these have acted, the stools should begin to be green. An ounce of castor oil should now be given, and a few hours later the characteristic thick green mucous, putty-like stool will appear. Usually the drops must be continued, and at the thirty-second hour from 2 to 4 compound cathartic pills are again given, and a few hours later the castor oil. The drops can now be discontinued."

Usually in treating alcoholics stimulation is necessary, and it may be necessary to give a hypnotic, but such treatment will not interfere with the administration of the above. "In the first twenty-four hours with an older patient, or one in the midst of a spree, whisky should be given four or five times, in 1 or 2 teaspoonful doses, in milk. The whisky should not be continued after the first twenty-four hours, and in younger patients it is usually not necessary to give it at all.

"*The belladonna symptoms which would cause the* drops to be stopped until they had subsided" are, extreme dryness of the throat and beginning delirium and appearance of the belladonna rash or scarlatiniform redness of the skin. An alcoholic is less tolerant of belladonna than a morphin patient, but Lambert says "if they are sensitive to this drug they will show it in the first six or eight hours of the treatment."

He states that after the patient has been through with this treatment the desire for alcohol has ceased, and that it is a question for the next few days of proper nutrition, and sometimes the administration of a drug for sleep. He finds the best hypnotics for these alcoholics are chloral and bromids. Whatever tonic is given of course must be non-alcoholic.

In October, 1909 (*Monthly Cyclopedia and Medical Bulletin*), appeared an article by Riewel, of Cleveland, Ohio, discussing the scopolamin (hyoscin) treatment of those addicted to the overuse of alcohol. He quotes a number of writers on this treatment, and the summation shows that the treatment is one of "a combination of 1/100 of a grain of scopolamin, 1/500 of a grain of atropin, and 1/60 of a grain of strychnin, every two to four hours." Here again, then, is an atropin treatment of alcoholism.

It does not seem that there should be any mysterious halo surrounding a 15 per cent. tincture of belladonna as against the pharmacopeial 10 per cent. (provided that more is used), or that the fluidextract of hyoscyamus would act any differently than the tincture, or perhaps better still hyoscin (scopolamin), or in the fact that belladonna is any better than the alkaloid atropin, or that the very few drops of the fluidextract of xanthoxylum (the dose of which as a bitter tonic, with perhaps slight irritant properties, is 2 c.c. (30 minims or ½ a teaspoonful) ) can be of any specific value, as from every physiologic and pharmacologic standpoint it cannot be.

The treatment, then, is an atropin treatment, with such stimulation as is required, perhaps strychnin, with such added atropin-sedative (hyoscyamus or hyoscin) action or perhaps some more active hypnotic, to the point of atropin tolerance. The symptoms looked for are those of atropin poisoning. The antidote to the high blood pressure, the cerebral congestion, and the dry skin from the atropin is caused by the prostration which must necessarily be produced by the severe catharsis that is advocated. Such catharsis is evidently a necessary and valuable adjunct to the treatment. Whether the compound cathartic pill is *the* means of producing it, or whether saline cathartics could be used is a question for the individual choice.

The treatment that Dr. Lambert advises is atropin or associated atropin to the point of tolerance, administered hour by hour, the patient thus being ably watched and cared for, and the production of sufficient and profuse catharsis.

Lambert finds that most patients who become morphinists have acquired the habit by accident, mostly through the attempt to stop pain, sometimes he thinks by the careless prescription of a physician. This emphasizes the necessity of teaching medical students, that they should rarely if ever write a prescription for morphin, but should always give the patient or nurse, from their pocket case, the morphin tablets required.

By the method which Lambert advises patients "do not suffer more than a bearable amount of discomfort" in breaking away from the drug. "Before beginning the treatment, the patient is made comfortable with his accustomed dose of morphin, and then given 4 or 5 compound cathartic pills. When these have acted, the drops should be given as prescribed for alcoholics. Of course if there is a hypersensitiveness to belladonna (atropin), the drops must be stopped and later begun again at a smaller number. After the drops have been started and the time has come for the patient's usual dose of morphin, he should receive "from one-half to two-thirds of the kind of opium that he has been taking, and administered in the manner that he has been administering it. (The above amount should be divided into three parts and given at half-hour intervals.) After fourteen hours of the drop treatment, the patient should be given 4 compound cathartic pills and 5 grains of blue mass, or some other form of vigorous cathartic such as the vegetable cathartic pills of the Pharmacopeia with ginger and capsicum and 1/25 of a drop of croton oil to each pill. Four or 5 of these last pills should be administered, if preferred to the compound cathartic pills and blue mass. After the twentieth hour of the drop treatment the patient should receive 4 or 5 more of the vegetable cathartic-ginger-capsicum-and-croton-oil pills and blue mass, and, if these do not quickly act, they should be followed by 4 or 5 compound cathartic pills and then an ounce of Epsom salt or Hunyadi water every half-hour for four or five doses. If in an hour or two these do not act, 4 or 5 more of the vegetable cathartic pills, followed by the salts, should be persisted in until the bowels act." Lambert well says that this cathartic treatment will appear to be extraordinary, and it is surprising that the withdrawal of the morphin does not of itself produce a diarrhea. The inhibition can only be due to the atropin. Lambert says that "if by the twentieth hour the cathartics do not act the symptoms of the reduction *of the morphin, viz.*: sneezing, nervousness and pain, come on in full force, and the patient begins to suffer. If the cathartics do act well, a second dose of morphin or opium should be given of about ⅓ or 1/6 of what was given as the initial dose at the beginning of the treatment. Twelve *hours after this* second dose of morphin or opium the patient should again have 4 of the vegetable cathartic pills, each with ginger and capsicum and 1/25 of a drop of croton oil, or 4 compound cathartic pills with the 5 grains of blue mass, and following this the stools will begin to be green. After the liquid green stools have occurred following the thirty-second-hour cathartic, an ounce of castor oil should be administered, and will cause the thick, green stool" as described under alcoholic treatment. After this movement, Lambert says, the patients feels "suddenly relaxed and comfortable and the nervousness ceases." Most patients then go to sleep. After the thirtieth hour of such treatment, and he well says earlier "if the patient is in a weak condition, stimulation with strychnin, from 1/60 to 1/30 of a grain, is advisable."

Turning again to Riewel's article, we find that the hyoscin (scopolamin) treatment of morphin addiction which has been studied by him gives successful results by first administering calomel, followed by Rochelle salts, and then giving in a typical case a hypodermic of 1/200 of hyoscin hydrobromid, 1/600 of atropin and 1/200 of strychnin, and repeating this every 1½ hours for eight doses; "then one-half of this dose every hour and a half for a time, and then increased again to the full dose every hour and a half. After the treatment is over, patients who cannot sleep should receive for one or two nights either trional, chloral, or bromids. If delirium occurs from the hyoscin or atropin. the amount must be reduced, but at any time that delirium becomes serious ¼ of a grain of morphin will stop it." This hyoscin treatment, Riewel says, will eliminate the desire for the drug. He cautions against using this treatment when there is Bright's disease.

Again we have the atropin treatment, which is the physiologic antidote for morphin, in the one instance preceded by free catharsis, and in the other free catharsis given throughout. While it seems advisable to give mercury in some form to act on the upper intestine and relieve the kidneys of congestion and remove the old bile, which will aid the liver in performing its effective physiologic work, still the particular cathartic selected must still be a matter of individual choice. Lambert has demonstrated that atropin will at least temporarily cure morphinism with the aid of free catharsis.

In treating patients for the cocain habit, which, by the way, is usually associated with the morphin habit, Lambert has found that the beginning dose of morphin should be less than when the patient has been taking the morphin alone, the cocain having been a sort of antidote to the intensity of the morphin action. The cocain should be stopped abruptly, and therefore these patients generally require strychnin stimulation early in the treatment. The amount of morphin that Lambert advises at first is half the usual twenty-four-hour amount, the dose being given as above described under the treatment of morphin addiction.

Lambert thinks that if the patient has been free from his desire for morphin or morphin and cocain for forty-eight hours he will not have this desire return for years, unless he has a return of the cause for which he used the morphin, viz.: acute pain, insomnia, sorrow or worry, and he believes that 85 per cent. of patients cured of this narcotic remain cured. This seems to be a very high percentage, and the experience of most of us would make this number little more than 50 per cent.

Those patients, however, who have had the cocain habit alone are much more likely to relapse, as they have probably taken the cocain for mental depression or for physical bracing. Of course, after the desire has been temporarily removed, unless the environment of the patient is changed or he is put into better physical condition, the same old craving for stimulation will recur.

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## THE AMERICAN MEDICAL ASSOCIATION—ITS POLICIES AND ITS WORK

### I. THE OPPOSITION AND ITS CAUSES

The proprietary medicine business, until within the past five years, had a most phenomenal growth and one which, considering the viciousness of the traffic, would have been impossible had it not been immensely profitable. The large returns drew to its ranks men without knowledge of medicine, pharmacy or chemistry, men who not only put up preparations for the medical profession to use, but also had the presumption to attempt to teach physicians how to use them—how to treat disease. Reputable manufacturing pharmaceutical houses, finding the demand for official and non-secret drugs falling off, were, one by one, almost forced by economic conditions into the secret proprietary business, until finally there was hardly a pharmaceutical concern that did not have many typical nostrums in its lists of "specialties." The Journal, like other medical journals of that time, accepted advertisements of proprietary medicines which later proved to be fraudulent; there was no standard and no means of distinguishing the good from the bad. Thinking members of the medical profession realized the conditions and continually protested against them. The evil was discussed in society meetings, often with emphasis, but the agitation usually ended only in discussion, while such criticisms were smoothed over or eliminated when the reports of the proceedings appeared in medical journals.

The proprietary "interests" were so powerful financially, they ramified in so many directions, and they affected so many in the medical profession itself, that the problem of attacking the evil seemed too large and too difficult, and the only result to be expected was failure, with vilification and abuse as the lot of those who attempted it. However, after much deliberation, and with due regard for the attempts that already had been made, and especially with a full appreciation of the opposition to be expected and of the difficulties to be met, the movement against this evil was started by the formation of the Council on Pharmacy and Chemistry of the American Medical Association. The announcement of the creation of this Council was received with great satisfaction by many, but encountered sneers, derision and open opposition, not only from the interests directly affected, but also from many medical journals. Nor did this journalistic opposition come entirely from publications whose paid subscription lists were insignificant and which absolutely owed their existence to their advertising patronage; it came, too, from some which were well supported by the medical profession. A defunct journal was resurrected by a certain group of nostrum-makers to oppose the movement. In it the members of the Council, and especially its chairman, were ridiculed, cartooned and maligned. Since then scores of so-called medical journals have apparently existed for the sole purpose of attacking the American Medical Association and its officers, and of obstructing its efforts—and very naturally so, since such journals derive most of their support from those who are exploiting the profession.

About this time *Collier's Weekly* published that remarkable series of articles by Samuel Hopkins Adams called "The Great American Fraud." The "patent medicine" people soothed themselves with the belief that the articles and the lessons they taught the public would soon be forgotten, as they undoubtedly would have been had they been allowed to remain as ephemeral newspaper matter. But the American Medical Association, obtaining permission to issue these articles in book form, published and distributed them by the thousands. The facts presented were thus preserved in the hands of individuals and libraries all over the country and became a permanent and ever-living evidence of the fraud and viciousness that is inseparable from the "patent medicine" business, and of the gross impositions practiced on the public.[1] In addition to the exposures made by Mr. Adams, the chemical laboratory of the Association has been analyzing a host of "patent" and proprietary medicines, and The Journal has insistently and persistently tried to enlighten the public regarding this evil.

Naturally, therefore, the "patent medicine" people were aroused, individually and collectively—as the Proprietary Association of America—and endeavored to poison the minds of the public against the American Medical Association. Pamphlets of various kinds have been—and are still being—sent broadcast, such, for example, as "The Political Doctors," "Confiscatory Legislation," "The Machinations of the American Medical Association," "The Legislative Schemes of the American Medical Association"—and numerous others. The newspapers, especially, have been furnished with all kinds of misinformation regarding the American Medical Association and about what it is doing, but, happily, the majority of newspaper editors saw the animus back of it. A few, not knowing the facts, have said harsh things, using the material furnished them by the interests affected to attack the Association and the profession generally.

Thus, two directly related interests—the so-called ethical proprietary business and the "patent medicine" business—by fair means and foul have done their best to discredit and injure the Association. The former was—and still is—supported by a large number of journals, of small circulation, it is true, supposed to represent the medical profession; the latter, by the cheaper class of newspapers, influenced largely by the lure of advertising contracts.

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[1] How far-reaching an effect this has had may be imagined when it is realized that over 150,000 copies of this book have been printed. The wide-spread spontaneous demand for the book has been most gratifying. One disinterested layman alone purchased 45,000 copies for free distribution.

Nor are the proprietary and "patent medicine" interests the only ones whose fraudulent profits have been cut down through the exposure of their methods by The Journal. After a campaign of public education lasting several years, Congress passed the Food and Drugs Act, and its passage was due in no small degree to the influence of the American Medical Association, with the help of the members of its constituent state and component county societies. Since its enactment The Journal has exerted even greater influence for the pure food law's honest and impartial enforcement; and this also has aroused the enmity and active opposition of manufacturers and dealers in sophisticated foods.

Thus—to say nothing of the unfriendly attitude of some of those connected with certain low-grade medical schools whose shortcomings have been shown up in The Journal, and without including the owners of the medical journals affected—there are three financially and politically powerful commercial interests combined for the common purpose of attempting to discredit and to weaken the Association and to obstruct its work. Failing to produce any result and finding that their onslaughts on the Association only drove the profession into closer alliance, they pursued another course.

In the fall of 1908 some letters addressed to the president of a pharmaceutical concern, whose methods had been given unpleasant notoriety in The Journal, revealed the fact that a concerted attack on the editor of The Journal was under discussion. Their tenor was: "Stop attacking the Association, as you will do no good. Center it on Simmons, for he is responsible." Shortly after this, information was received that the individual to whom the letters were addressed, both by personal effort and through the efforts of detectives, was endeavoring to find something in the editor's life that might be damaging to his reputation.

Material obtained by going back thirty-eight years or more was craftily arranged by a Chicago physician and was worked up so as to make the most damaging "case" possible. Articles were published in such of the cheaper medical journals as would print them, "addresses" were delivered before such medical societies as would tolerate them, newspaper interviews appeared and, especially, thousands—yes, hundreds of thousands—of pamphlets and reprints were circulated with an extravagance that indicated that expense was no object—all these methods were used to make public the matter which had been so assiduously collected. It is probable that during the last two years more money was spent in detective work, in printing and in postage in an attempt to blast the reputation of the editor of The Journal than ever before was expended for a similar purpose. Being personal in character, this matter naturally could not be discussed in The Journal.

That these attacks were received with joy and utilized to the fullest extent by the proprietary and "patent medicine" interests goes without saying; in fact, the very "consumption cure" concern which we expose in this issue went so far as to reproduce in a newspaper advertisement the photograph of the physician circulating this matter and to extol him in these words: "For him to expose the methods of the A. M. A. is a Godsend to every consumptive, as it clearly shows why the medical profession at large does not recommend Nature's Creation." And more recently the American Druggists Syndicate, because The Journal has made clear the fraud, misrepresentation and deceit connected with its "patent medicine" business, has been using the material with absolute disregard of expense, circulating it among physicians and druggists throughout the country.[2]

These attacks, of course, have been regarded as a part of the general scheme of retaliation of those whose financial interests were being injured through the work of the Association; in a word, as coming from enemies who have good cause for fighting back.

### II. THOSE RESCINDED RESOLUTIONS

From what has been said above, opposition and retaliation are to be looked for from those interests whose commercial existence is threatened by the work of the American Medical Association. Such enemies and such opposition were to be expected and could, therefore, be reckoned with. An attack from within the ranks of the profession itself, however, is another matter. When, furthermore, it comes from one of the most progressive component county societies, and one in whose territory is located the headquarters of the Association, the matter deserves comment.

The Council of the Chicago Medical Society, at its January meeting, adopted certain resolutions which purported to be based on the preamble that:

> "Certain conditions exist which menace the best interests of the American Medical Association and of the medical profession at large."

These resolutions[3] were published in the society's *Bulletin* and copies of them were sent officially to the various state society journals. Unofficially, typewritten copies were sent—some at least in envelopes bearing the address of the individual who is reported to have made the original draft of the resolutions—to medical journals all over the country. Incidentally the matter appeared with appropriate headings in the Chicago newspapers of the morning following. The resolutions were rescinded at the next meeting of the Council, but the publicity given their adoption was strikingly absent in their rescindment. Because these resolutions have furnished the enemies of the Association with ammunition that is being and will continue to be used against it—as those who inspired them undoubtedly intended they should—it seems wise to give some consideration to what—in view of the fact that they have been rescinded—would ordinarily have required no comment.

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[2] See letter and comments in The Journal, February 19, p. 629.

[3] The resolutions appeared in The Journal, Jan. 29, 1910, page 382; notice of their rescindment appeared in The Journal, Feb. 12, 1910, page 543.

Many—in fact most—of these resolutions dealt with matters of Association policy, matters which have been up for consideration time and again and have been discussed *pro* and *con*. They are matters on which an honest difference of opinion may well exist and are very proper questions for consideration if discussed by those having a full understanding of the points involved. Whether, for instance, one person should be permitted to hold at the same time more than one executive or honorary position in the Association; whether the office of general secretary and the position of editor should or should not be separated; whether the number of trustees should be increased or decreased; whether the initiative and referendum are feasible and desirable—all these are questions on which there may easily be differences of opinion. With such we may deal at length in the future.

A few of the resolutions, however, dealt not with matters of policy, not with theories, but with matters of demonstrable fact. To consider these in detail:

> "All officers and employees whose duties involve financial responsibilities should be bonded."

The answer to this implication is simple and short: All such officers and employees are bonded and for years have been.

> "The law governing admission to membership in the American Medical Association should be so amended as to make it mandatory on the secretary to enroll applicants who have complied with the provisions and by-laws governing the same."

The secretary never has refused to enroll such applicants, and under the present by-laws which have been in force for years, could not if he would.

> "Space should be set apart in The Journal for free and courteous discussion of the policies and methods of the Association or for any other matters that may appeal to the membership at large as bearing on the interests of the Association."

Such space always has been available and never has been denied those who wished courteously to present matters of interest to the Association. What constitutes "matters of interest" always has been and always must be determined by the editor—past, present or future—that is one of an editor's functions. Any other method of conducting a journal would result in chaos.

> "No member should be expelled from the Association without a fair trial and full hearing."

Under the present laws, and they have been in force for years, no member *can be* expelled from the Association, either with or without trial, for the American Medical Association has no voice in the matter. Right to membership in the Association depends entirely on membership in the county society, and when a physician ceases—voluntarily or involuntarily—to be a member of his county society he thereby loses his right to membership in the state society and in the American Medical Association.

The reason space is given to a consideration of the foregoing resolutions is not only that the direct statements contained therein are misleading or absurd—and they are both—but that each one carries with it an implication—more or less veiled—of official negligence or dereliction. The resolution regarding the bonding of employees implies that responsible officials are not bonded; that dealing with the enrolment of members gives the impression that the secretary has refused to enroll applicants who were eligible; that providing free discussions in The Journal insinuates that freedom of discussion is not to be had; that referring to loss of membership intimates that the Association has not only the power to expel its members, but that its members actually have been expelled without a "fair trial and full hearing"—all of which implications are false and unwarranted libels on the Association and its officers.

If the majority of those members of the Council of the Chicago Medical Society who voted for these resolutions had realized what there was behind them, then the only explanation of their action would have been that of sheer maliciousness. But we believe—in fact, we know—that many of those who voted for them had no clear conception of the conditions which were supposedly under consideration. With an honesty of purpose that was superior to their judgment they allowed themselves to be used as catspaws to pull out of the fire the chestnuts of personal spite of one or two individuals. That they did so was unfortunate in that it gave the common enemy reason for rejoicing and lent color to the rumor so assiduously promulgated by the proprietary and "patent medicine" interests that there are internal dissensions in the American Medical Association—a rumor which is as false as it is persistent.

We know that the medical profession has never been so united as it is to-day; we know that the attempts to better the scientific, economic and social conditions in the profession itself are receiving hearty support and cooperation; we know that the campaign against fraud and deceit in proprietary medicines is meeting the approval of all right-thinking physicians; we know, in fact, that the great mass of the medical profession of the United States is heartily in sympathy with the critical and constructive work which the American Medical Association is doing through The Journal and through its standing boards and committees—and this knowledge is in itself an inspiration to larger and better things.

That the organization which has grown so wonderfully in the past decade is capable of improvement, none realizes more keenly than those who have so earnestly striven to perfect it; that criticisms and suggestions will help to bring about such readjustments in the machinery of the Association as changed conditions make necessary, its best friends have always maintained; that such criticisms and suggestions are, and always have been, welcomed by those to whom the Association has intrusted its executive work, goes without saying. But while all this is true no one will question the principle that for criticism to be of any value it must be of a constructive and not a destructive nature, and, further, that it must come from those who are at least fairly familiar with the conditions which it is desired to better. To suggest changes in the constitution and by-laws of an organization for no other *actual* purpose—whatever the nominal purpose may be—than that of satisfying personal pique or for political expediency, is not criticism—it is denunciation. That opposition should have developed is not to be wondered at, rather is it to be welcomed; it is only moving bodies that meet resistance. That self-seeking or revengeful individuals should ally themselves with the open enemies of the profession is not surprising, but once their object is made clear they cease to be a menace.

One thing the passage of these resolutions shows: The rank and file of the Association are not as familiar with the details of their great organization as they should be. If men of more than ordinary intelligence and ability, such as those composing the business body of the Chicago Medical Society, could be misled on points so fundamental and elemental in nature, then it is safe to assume that a great majority of the members of the Association need to be better informed about the Association itself. This being so, we purpose to review briefly, in future issues, the history of the American Medical Association and its development during the past ten years and show what has been, and is being, accomplished in the interest of both the medical profession and the public.

## HYDROPHOBIA

The importance of a disease is not to be measured altogether by its frequency; its effects in individual cases are also to be reckoned. When a disease like hydrophobia is apparently on the increase it is a health problem of some urgency. The statistics in Dr. Frothingham's paper in this issue of The Journal show a rather formidable prevalence of the disorder in certain parts of the country. Kerr and Stimson[1] state that there were one hundred and eleven deaths from hydrophobia in 1908, and that the number of deaths from this cause in the registration area in 1906 and 1907 (eighty-five and seventy-five, respectively) was almost double the number in any previous year since 1900. The health authorities of several of the states have also called attention to this fact. Rabies exists in nearly every portion of our country, and Dr. Frothingham could have added Alaska to the political divisions where it is found, as enumerated by him. It is probably endemic in the arctic regions, especially if we are to consider, as it seems we should, the distemper noticed by Dr. Kane and many others since him, which carries off a large portion of the dogs in Alaska every year.

A recent writer[2] questions the rabic nature of this disorder on the ground that human beings bitten do not apparently contract the disease. This can probably be accounted for by the fact that they are seldom bitten except through the heavy clothing worn in that region; it is a well-known fact that a large proportion of those bitten in other climates are protected the same way. Dr. Howe's description in other respects is that of rabies. The disease was, at least formerly, dreaded by the Eskimo in some parts of Alaska, and undeniable typical hydrophobia also occurs in that region. In short, so far as can be learned, in the territory of the United States only the Rocky Mountain and Pacific slope regions are free from the disease.

It must be regarded as most unfortunate that in many of our communities indifference and an unenlightened or perverted sentiment of compassion for animals should hinder the adoption of the reasonable methods of prevention which have exterminated the disease in Great Britain, namely, destruction of infected animals and proper muzzling of all dogs in infected areas. Even locally applied, these measures would still be of great value in reducing the danger of infection. It is also unfortunate that incredulity as to the existence of rabies or hydrophobia should be professed, even by a few physicians. The conversion of one of these to the opposite opinion by the occurrence of a case in his own family, extensively noticed in the medical and lay press a few years ago, points a moral, obvious but, it is to be hoped, less and less necessary among the medical profession and the intelligent public.

# *Medical News*

### GEORGIA

**Personal.**—Dr. Russell B. Moore, Auburn, is reported to be dangerously ill.——Dr. Spurgeon Williams, Winder, is convalescent after smallpox.

**Medical Society Election.**—The Fourth District Medical Society held its fifth semi-annual meeting at Newnan, February 15, and elected Dr. T. Neal Kitchens, Columbus, president, and Dr. Theodore B. Davis, Newnan, vice-president.

**State Sanatorium Trustees Meet.**—The trustees of the State Tuberculosis Sanatorium held their annual meeting, February 15. Capt. W. C. Raoul reported that a desirable site had been purchased and plans for buildings had been adopted, with still a balance of $19,000 to be put into the buildings before the institution could be opened for the reception of patients, but that still further appropriations would be necessary. The following officers were elected: Dr. Thomas R. Whitley, Douglasville, president; Hon. T. D. Tinsley, vice-president; Dr. Marcus F. Carson, Griffin, secretary; Mr. J. T. Orm, treasurer, and Capt. W. C. Raoul, Hon. T. D. Tinsley, and Drs. Charles H. Richardson, Montezuma, Henry R. Slack, LaGrange, and Jeff Davis, Toscoa, executive committee.

### ILLINOIS

**Quincy Doctors' Club.**—At an informal meeting of ten physicians of Quincy, held February 16, the organization of a physicians' club was considered. Dr. Thomas B. Knox acted as chairman and Carl W. Pfeiffer as secretary. Drs. Knox, John A. Koch, John K. Reticker and Kirk S. Shawgo were appointed a committee to present the matter to the physicians of the city and report at a subsequent meeting.

**Personal.**—Dr. Frank H. Jenks has been appointed superintendent of the Elgin State Hospital, vice Dr. Vaclav H. Podstata, resigned. The appointment becomes effective March 15.——Dr. William R. Patton, Charleston, is reported to be seriously ill in Washington Hospital, Los Angeles, with rheumatism and erysipelas.——Dr. Charles E. Crawford, Rockford, inspector of the State Board of Health, has gone to California for a rest of several weeks.——Dr. Jacob Huber, Pana, has deeded to the local grand army post five acres of land adjoining the city for a park.——Dr. Joseph G. Kilgore, Vermilion, is reported to be critically ill with pneumonia.——Dr. Leslie A. Beard, Polo, underwent operation at Mercy Hospital, Chicago, February 15.

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[1] Kerr, J. W., and Stimson, A. M.: The Prevalence of Rabies in the United States, The Journal A. M. A., Sept. 25, 1909, liii, 989.

[2] Howe, G. B.: In Mikkelson, Conquest of the Arctic.

### Chicago

**Personal.**—Dr. Henry Banga is ill in Michael Reese Hospital with septicemia due to an operation wound. He has been in serious condition but is now improving.——Dr. Gottfried Koehler, as the result of a recent civil service examination, has been named deputy commissioner of health to succeed the late Dr. Frank W. Reilly.——Dr. William A. Evans, health commissioner, has gone to New Orleans where he will have conferred on him the degree of LL.D. by his alma mater, Tulane University.——A diamond-studded gold watch was given Dr. Theodore B. Sachs by the board of directors of the Winfield Sanatorium for Consumptives, February 22.——Dr. Byron Robinson is reported to be critically ill at his home in River Forest.

## INDIANA

**New Hospital for Crawfordsville.**—The plans for the new buildings of the Methodist Hospital, Crawfordsville, have been completed. The buildings will cost $130,000, and will accommodate 70 patients.

**Site Selected for Sanatorium.**—A site has been selected about ten miles southwest of Delphi on a high bluff overlooking the south fork of Wildcat creek, for the location of the Lafayette Tuberculosis Sanatorium.

**Opposes Intern Tests.**—On the suggestion of Dr. William N. Wishard, Indianapolis, it is probable that another method than the competitive examination will be adopted for the selection of interns for the Indianapolis City Dispensary and City Hospital. As there is but one medical school, the ordinance providing for competitive examination is not considered necessary, as the grade made in the final college examination or before the State Board of Medical Examination and Registration may properly be taken as a basis.

**Personal.**—Dr. Charles S. Woods has been appointed city sanitarian of Indianapolis, Dr. Frank L. Truitt, city pathologist, and Dr. Eugene B. Mumford, inspector of contagious diseases (reappointed).——Dr. Ernest R. Sisson, Greenfield, who has been seriously ill in Indianapolis, is reported to be convalescent.——Dr. William F. King, Columbia City, has been appointed assistant state health commissioner.——Dr. John N. Records has been appointed postmaster of Franklin.——Dr. Edward P. Busse, Evansville, has been appointed superintendent of the New Southeastern Hospital for the Insane, Madison.——Dr. William R. Cravens, Bloomfield, is reported to be seriously ill with septicemia.——Dr. Charles L. Thomas, Logansport, who has been seriously ill in St. Luke's Hospital, Chicago, as the result of an automobile accident, has returned to his home greatly improved.——Dr. Edward F. Wagner, Fort Wayne, is reported to be ill with appendicitis.——Dr. Jewett V. Reed has been appointed superintendent of the City and Bobbs Dispensary, Indianapolis.——Dr. William G. Wegner, South Bend, has been appointed health commissioner of St. Joseph county.

## MARYLAND

**Pure Food Bill.**—The pure food bill, which is being championed by Dr. Thomas A. Ashby, Baltimore, in the legislature, has been held back by opponents to the clause relating to ice-cream. The bill provides that 14 per cent. shall be the standard in Maryland, but permits the standard to run down to 4 per cent. on the proviso that it shall be labeled between those limits.

**New Health Bureaus.**—Dr. Thomas A. Ashby, Baltimore, introduced a bill in the legislature, February 24, providing for five bureaus of health under the State Board of Health, namely, communicable diseases, bacteriology, chemistry, sanitary engineering and vital statistics, each bureau to be directed by a chief at a salary of not less than $1,500 or more than $2,[illegible]00, with an assistant, and if necessary with additional help. For expenses an appropriation of $24,000 is made.

**The Optometry Bill.**—Advocates and opponents of the optometry bill, which is designed to place optometry on the same plane as medicine and providing for a board of examiners, appeared before the committee on hygiene of the House of Delegates February 2[illegible]. Among the opponents are Drs. Samuel Theobald, Herbert Harland, Hiram Woods, Jr., Henry O. Reik, J. Frank Crouch, James J. Carroll, Ernest A. Knorr, G. Milton Linthicum and Arthur P. Herring, who state dealers in eye-glasses and spectacles were in many cases not qualified to examine eyes and prescribe glasses. Dr. Lewellys F. Barker of Johns Hopkins Hospital, in a written communication, states that serious disorders as brain tumor, locomotor ataxia, etc., first manifest themselves in eye symptoms, and might be prevented but for superficial examination of the eye by those not trained in medicine.

**Care of the Insane.**—The members of the State Lunacy Commission claim that the state bond issue of $600,000 for the care of the insane will be sufficient. The supervisors of the Baltimore City Charities, however, say that not less than $1,000,000 will be sufficient. The recommendations embrace $250,000 for a negro hospital with provision for 452 patients; additional $240,000 for buildings at Springfield to accommodate 674 patients; $40,000 for additional buildings at Owing's Mills to accommodate 100 feeble-minded children, and $450,000 to provide buildings each year for fifteen years to cost $30,000 each, to provide for the annual increase of at least 100 insane patients a year.——Dr. Arthur P. Herring, secretary of the State Lunacy Commission, in a recent appeal for the state care of the insane, enumerated the following points in the safeguarding of the insane: They should receive a degree of comfort and decency suitable for the average citizen; they should be treated with uniform kindness and consideration; they should be supplied with attractions and interest to lessen the monotony of hospital life; they should have medical treatment for the cure of the disease, with release from the institution at as early a date as is safe for the patient and community.

### Baltimore

**Chiari to be Herter Lecturer.**—It is announced that Dr. Hans Chiari, professor of pathology in the University of Strassburg, is to be Herter lecturer at Johns Hopkins University in October next.

**Personal.**—Dr. J. Whitridge Williams was reelected president of Johns Hopkins University, February 22.——Dr. Melville H. Carter has been elected president of the Crescent Democratic Club, and Dr. Benjamin F. Phillips, vice-president.

**Pure Food Violators Fined.**—The Kohler Manufacturing Company, charged with misbranding 216 packages of the "Dr. Kohler's Antidote," shipped to Nashville, April 15, 1909, is said to have pleaded guilty in the United States District Court, February 19, to violation of the pure food and drugs act, and to have been fined $25. The misbranding referred to was the statement that the medicine cured headache, neuralgia and disordered stomach.

**Commemoration Day.**—At Commemoration Day exercises of the Johns Hopkins University, President Rempen stated that at least $1,700,000 would be necessary to move the university to the new suburban site at Homewood, and that for actual running expenses and extension departments, there should be available an additional income of $50,000 a year. Among the pressing needs of the university are a building for pathology, for which, with endowment, $500,000 is needed, and a department of preventive medicine.

## MASSACHUSETTS

**Personal.**—Dr. James L. Wellington, said to be the second oldest graduate of Harvard Medical School, celebrated his ninety-second birthday anniversary at his home in Swansea, January 27.——Dr. James A. King, Millville, has recently returned from abroad.——Dr. Timothy Leary, Boston, has been appointed a medical examiner of Suffolk county, vice Dr. William G. MacDonald, deceased.——Dr. Emerson A. Ludden, chairman of the board of health of North Brookfield, is said to be ill with smallpox, contracted from a patient whom he treated.

**Board of Health Organized.**—At a meeting of the New Bedford Board of Health, February 9, organization was effected by selecting Dr. F. M. Kennedy as chairman. The following appointments were made: Medical inspector, Dr. Archibald N. Senesac; bacteriologist, Dr. Augustus H. Mandell; quarantine physician, Dr. Joseph A. Frasier; vaccinators, Drs. Anna W. Croacher and L. K. Doran; and school inspectors. Drs. Joshua F. Weeks, Joseph A. Bernier, Fred C. Graves, Charles Shanks, Edwin P. Seaver, Jr., H. V. Weaver, William A. Nield and Joseph P. St. Germain.

**Hospital Notes.**—The sanatorium for tuberculosis patients at Westfield, the third of the four public buildings to be built and maintained by the state, was opened February 16. It has accommodations for 150 patients.——By the will of the late Thomas H. Dodge, Worcester, a provision is made for the establishment of a hospital to be known as the Eliza D. and Cora J. D. Dodge Hospital, to be devoted to the care of women and children only, not for incurable diseases or contagious diseases. The $30.000 devised for this purpose is to be held in trust for seventy-five years before the hospital is to be built.

## MISSOURI

**Measles Prevalent.**—An epidemic of measles is reported in Carroll county, where several deaths are said to have occurred.

**Antituberculosis Society Organized.**—Buchanan Society for the Relief and Prevention of Tuberculosis was organized in St. Joseph, February 22, with a charter membership of 35. Dr. Oliver C. Gebhart was elected secretary, and Drs. Charles R. Woodson, Emmett S. Ballard, James K. Graham, Henry W. Westover, Daniel Morton and H. V. Good, directors.

**Personal.**—Dr. Horace D. Quigg, Buncton, has been appointed superintendent of the State Feeble-Minded Colony, Marshall. ——Dr. John A. Lowry suffered severe damage by fire to his building in Moberly, Feb. 6.——Dr. Mathew W. Pickard, Kansas City, has been appointed division surgeon of the Chicago Great Western Railroad, with jurisdiction between Kansas City and St. Joseph.——Dr. George W. Smith, Albany, has succeeded Dr. J. A. Crockett, Stanberry, as physician of Gentry county.

### St. Louis

**New Hospital Bills.**—The physicians of the city are divided into factions for and against the hospital bills pending in the municipal assembly, which if passed will radically change the system now in force, will curtail the authority of the board of health, and will place in the hands of a hospital board, headed by the mayor and six members, laymen and physicians, the entire management of the city hospital, insane asylum, quarantine hospital, female hospital and poorhouse.

**Unlicensed Practitioners Fined.**—Edward Wicke, charged with practicing medicine without a license, is said to have been fined $100 and costs in the court of criminal correction, February 21.——C. O. Wright is said to have been fined $200 by Judge Kline in the court of criminal correction, February 5, on the charge of practicing medicine without a license. It was alleged by the health department officers that the defendant had agreed to cure patients in the last stages of consumption for $1,000.

**Personal.**—Dr. John Stewart has been appointed superintendent of the State Sanatorium for Incipient Tuberculosis, Mount Vernon, vice Dr. Oliver H. Brown, resigned.——Drs. Arthur H. Bradley and James Moores Ball have resigned from the faculty of Barnes Medical College.——Dr. Edward W. Saunders was operated on in Johns Hopkins Hospital recently for appendicitis.——In the damage suit against Dr. John M. Dean, in which malpractice was alleged, the jury has decided in favor of Dr. Dean.

**Hospital for Incipient Tuberculosis.**—The St. Louis Society for the Relief and Prevention of Tuberculosis has purchased ten acres near Kirkwood, on which will be established a sanatorium for incipient tuberculosis. Dr. Adrian S. Bleyer is medical director of the institution, and Drs. Nathaniel Allison, Louis H. Behrens, William Porter, Morris C. Tuholske, Francies L. Bishop, William S. Deutsch, Louis E. Bunte, Jerome E. Cook, Elsworth Smith, Oscar H. Elbrecht, William Engelbach, Warren P. Elmer, Walter Fischell, Max A. Goldstein, Rufus C. Harris, Frederick C. E. Kuhlmann, Samuel T. Lipsitz, Hanau W. Loeb, Edgar M. Senseney, Roy P. Scholz and Cleveland H. Shutt are members of the medical staff.——At a meeting of the advisory board and a committee of one hundred of the United Jewish Charities, February 21, $3,000 was realized for the sanatorium fund of the organization.

## NEW YORK

**Progress Against Tuberculosis.**—State Health Commissioner Porter has approved the Pendell Farm Site for a tuberculosis hospital for Poughkeepsie. The purchase price is $10,000. The institution will accommodate 40 patients.

**Gift to Adirondack Cottage Sanatorium.**—One of the many congratulatory letters that Dr. Edward L. Trudeau received in connection with the celebration of the twenty-fifth anniversary of the institution was one from Mrs. E. H. Harriman containing in addition an offer of $25,000 for a research and medical fund for the support of the sanatorium laboratory. The fund is to be known as the E. H. Harriman Research and Medical Fund of the Adirondack Cottage Sanatorium. The trustees of the institution accepted the gift.

**Personal.**—Dr. Salphronius H. French, Amsterdam, was tendered a dinner by the Montgomery County Medical Society, February 8, in honor of his completion of fifty years of medical practice. He was also presented with a parchment scroll suitably inscribed.——Dr. Karl G. Leo-Wolf has taken charge of the new clinic and dispensary opened February 17, under the supervision of the Niagara Falls Committee on the Prevention of Tuberculosis.——Dr. Thomas H. Halsted has been elected president of the Syracuse Society for the Prevention of Social Disease, and Drs. Albert E. Larkin and Aaron B. Miller have been elected members of the executive committee.

### New York City

**Medical Lecture.**—The date of the lecture on "Diseases of Metabolism," to be given by Prof. Magnus Levy of the University of Berlin, has been changed from March 19 to April 2.

**Harvey Society Lecture.**—The seventh Harvey Society lecture, given March 5, by Dr. Adolph Meyer of Johns Hopkins University, is on "The Present Status of Aphasia and Its Relation to Psychopathology."

**New Free Clinic.**—The East New York Dispensary on Watkins street near Pitkin avenue will be ready for occupancy by the middle of March. The building has cost about $25,000, most of which has been raised by the people of that vicinity.

**Typhoid Carrier Released.**—Mary Mallon, popularly know as "Typhoid Mary," has been released from quarantine on North Brother Island by order of the health department with the proviso that she is not to seek employment as a cook. She has also agreed to report frequently to the board of health. It was proved conclusively that she was a typhoid carrier.

**Honor Dr. Jacobi.**—On February 26 the Associated Alumni of Mount Sinai Hospital celebrated Dr. Abraham Jacobi's half century of service. Dr. Jacobi was presented with a gold medallion bearing on one side a bas-relief of himself and on the other side the words, "Humanitarian, Teacher, Leader and Friend," executed by Mobray Clark. The speakers of the evening were Drs. Martin W. Ware, William H. Welch, Baltimore, John A. Wyeth, Charles H. May and Arpad G. Gerster and others.

**Personal.**—Dr. Allan McLane Hamilton has returned from Europe.——Dr. Aaron B. Cohen has been appointed house physician of the Eastern District Hospital, Brooklyn.——Dr. Charles C. Haskell has resigned from the Willard Parker Hospital of the New York Department of Health, to become connected with the department of pharmacology of Messrs. Eli Lilly and Co., Indianapolis.——Dr. John C. Bryan was placed in Bellevue Hospital, psychopathic ward, January 13.——Dr. Robert H. Golder is reported to be seriously ill at his home in Rossville, Staten Island.

**New Hospitals.**—The new hospital and four pavilions for the isolation and treatment of communicable diseases at Hoffman's Island, are now completed and ready for occupancy. Separate pavilions are provided for measles, scarlet fever and diphtheria. The five buildings will accommodate 300 patients. ——Plans have been filed with the building superintendent of the Bronx for a new three-story hospital connected with the Hebrew Infant Asylum. The building will cost $30,000, and will be equipped with a series of isolation wards.

## PENNSYLVANIA

**Postgraduate Study.**—The Chartiers Branch of the Allegheny County Medical Society has a class of 20 which meets every Monday evening for postgraduate study.

**New Officers for Hospital.**—Tarentum Hospital Association, at its annual meeting in January, elected the following officers: President, J. G. Stewart; vice-president, J. W. Hemphill; secretary, Dr. Thomas B. Allison; and treasurer, O. C. Camp. A board of directors was elected and at its first meeting, selected Dr. George M. Getze as president. The new hospital is well on toward completion and will be ready for occupancy May 1.

**Personal.**—Dr. Joseph L. McCool, physician at the Marcus Hook Quarantine Station, has resigned, taking effect March 1. ——Dr. Joseph M. Corson, Chatham Run, narrowly escaped drowning February 19. When driving across the river near Lock Haven, the ice broke, precipitating him into the stream. ——Dr. Harry W. Zech, York New Salem, while crossing Codorus Creek, February 17, was caught by a barbed wire and narrowly escaped drowning.

**Tuberculosis Dispensaries.**—A free dispensary for the treatment of tuberculosis will be erected at 406 Wharton street by the Jewish Consumptive Institute, fully equipped for the study of the disease and the distribution of milk and eggs to the poor. A force of nurses will be organized to visit patients in their homes.——Owing to the impracticability of conducting a tuberculosis dispensary in a tent in cold weather, the Germantown Hospital closed its dispensary February 15. It will open again in the spring.

**County Societies to Aid Tuberculosis Work.**—The Committee on the Prevention of Tuberculosis of the Medical Society of the State of Pennsylvania has decided that one of the most important ways of securing advance in the crusade against tuberculosis will be to request each county medical society throughout the state to hold one or more meetings during the year on tuberculosis, with especial reference to physical diagnosis. The committee offers, if two weeks' notice is given, to arrange for a competent speaker. It is suggested that patients be on hand at the meeting for demonstration. Any requests for speakers should be addressed to Dr. Charles J. Hatfield, chairman of the committee, 2008 Walnut street, Philadelphia.

**Benefit from Removal of Adenoids.**—Last October the Department of Public Health issued a pamphlet directed to the parents of the younger school children concerning the nature of adenoid growths and their danger to the child. Recent investigations prove that the presence of adenoid growths are responsible for the increasing number of backward children in the lower grades, but that instant and marked improvement has followed the operation for removal. During the last school year, the medical inspectors found in the public schools 1,326 cases of adenoids and the pupil in each case was referred by letter to his parents. Of this number 482 were operated on.

### Philadelphia

**Jefferson College Smoker.**—The members of the Academy of Jefferson Medical College, composed of men in the school having a college degree, held their annual smoker, February 18. The purpose of the association is to encourage men to attend a college before beginning their medical study. The speakers of the meeting were: Rev. Dr. George W. Lincoln, Dr. J. Chalmers DaCosta and Commodore R. J. Denny, U. S. N.

**Plea for a Sane Fourth.**—Another meeting of the Committee for the sane Celebration of the Fourth of July was held February 25. The committee is planning to have ordinances enacted to prohibit the sale and use of explosives. The meeting was addressed by Mrs. Imogene Oakley, of the Civic Club, Dr. William W. Keen, Mr. George W. Ochs, Dr. Samuel Wolfe, representing the State Medical Society, Dr. J. Madison Taylor, and others.

**To Reduce Infant Mortality.**—In pursuance of the movement to reduce infant mortality, Dr. Joseph S. Neff, Director of Health and Charities, addressed the Clerical Brotherhood, February 14. He reviewed the work of the National Association for the Study and Prevention of Infant Mortality and declared that of the 6,860 deaths in this city in 1909, fully 65 per cent. were preventable. Of the total number 4,763 were of infants under one year. He renewed his plea for a corps of women nurses for the dissemination of information to mothers regarding the treatment of infants.

**Gifts to the University.**—Donations amounting to more than $1,000,000 were announced by Provost C. C. Harrison of the University of Pennsylvania, at the annual "University Day" exercises in the Academy of Music, February 22. Besides the presentation by Henry Phipps of the Phipps Institute for the Study and Prevention of Tuberculosis, valued at more than $500,000, previously announced, the provost also stated that the $250,000 necessary for a zoology laboratory had been donated from various sources; that an alumnus had guaranteed the payment of $100,000 within the current year for the endowment of a chair, the occupant to be known as "The Benjamin Rush Professor of Physiologic Chemistry;" that Mrs. Caroline E. Richmond had donated $50.000 for the endowment of ten beds in the University Hospital; that the funds necessary for the completion of the new medical laboratories had been secured. This needed addition will now be built in memory of the late James McManes. This is the gift of his daughter and it is the same family who earlier presented the pathologic laboratory.——Sargent's portrait of Dr. J. William White was presented by Dr. Alfred Stengel. Dr. Charles H. Frazier received the portrait on behalf of the faculty.

## SOUTH CAROLINA

**Health Board Reorganized.**—The board of health of Anderson has been reorganized with ten members instead of five as heretofore, and four members are physicians.

**Personal.**—Dr. James R. Ware has been elected president of the Greenville Board of Health.——Dr. William B. Cox, Chester, has been elected physician of the Chester County Pension Board.

**Charleston Mortality.**—The annual report of Dr. J. Mercier Green, health officer of Charleston, reviews the work of his department for 1909, and notes a steady reduction in the death rate. In 1899 the mortality rate was 21.60 per 1,000, while in 1909 it was reduced to 14.04 per 1,000. The colored rate for 1899 was 40.50 per 1,000, while in 1909 it had decreased to 32.03 per 1,000. He advocates the completion of the sewerage system, the filling up of all vaults and cesspools, the removal of cows and dairies from the city, and the inspection and thorough care of bakeries and dairies.

## SOUTH DAKOTA

**Tuberculosis Sanatorium Located.**—It is probable that the state tuberculosis sanatorium, established by the state legislature, will be located on a site of 133 acres known as Chinaman's Ranch, near Custer.

**Benzoate of Soda Condemned.**—The Fourth District Medical Society, at its January meeting, adopted resolutions urging Congress to amend the Food and Drugs Act so as to prevent the use of benzoate of soda and other similar preservatives in foods; and endorsed Dr. Harvey W. Wiley in his vigorous campaign in food legislation.

## WEST VIRGINIA

**Hospital Incorporated.**—Campbell Hospital has been incorporated at Beckley with a capital stock of $5,000 by Dr. J. A. Campbell and others.

**Postgraduate Work.**—Physicians of Clarksburg and Harrison county have organized the Harrison County Postgraduate School to improve facilities for postgraduate work.

**Sanatorium for Wheeling.**—At a meeting of the Wheeling Antituberculosis Society, February 11, ways and means for the erection of the proposed sanatorium were discussed, and a committee on site was appointed, with Dr. Andrew J. P. Wilson, chairman, and Drs. Harriet B. Jones and William H. McLain as medical members. Dr. Michael Gaydosh was appointed a member of the ways and means committee.

**Dr. Hicks Exonerated.**—The following resolution was passed by the Cabell County (W. Va.) Medical Society at its regular monthly meeting, Jan. 13, 1910:

> *Resolved:* That the Cabell County Medical after due deliberation of the charges against Dr. Ira Clay Hicks have been thoroughly investigated, the following findings are submitted:
>
> That we have investigated these charges and find them to be wholly untrue.
>
> Dr. Hicks having shown his good intentions in the matter by submitting his immediate resignation to the Knights of Modern Chivalry as director, as well as aiding the censors of this society in their investigation of these charges; in justice to Dr. Hicks we demand that a copy of this resolution be printed in *The Journal of the West Virginia Medical Association* and The Journal of the American Medical Association, with the request that independent medical journals copy.

## WISCONSIN

**Street Cuspidors.**—It is reported from Black River Falls that street cuspidors to prevent the spread of tuberculosis are to be installed in that city.

**Annual Report of Sanatorium.**—At the annual meeting of the Milwaukee Sanatorium for Tuberculosis Association, which maintains the institution, Blue Mounds, the report showed that 106 cases had been treated in the sanatorium during the year.

**Personal.**—Dr. J. Thomas Elliott, Rhinelander, is convalescent after a severe attack of erysipelas.——The case of Dr. Isaac Buckeridge, Beloit, charged with having failed to report a case of scarlet fever, was dismissed on petition of the district attorney, on account of lack of sufficient evidence to warrant prosecution.——Drs. Hugo F. Mehl, Samuel G. Higgins, P. W. O'Donovan and Dirck Bruins have been appointed assistant medical inspectors for schools of Milwaukee.

**Drinking Cup Abolished.**—The State Board of Health has published a rule that "The use of the common drinking cup on railroad trains, in railroad stations and in public and private schools is hereby prohibited. No person or corporation in charge of or in control of any railroad train or station or public or private school or state educational institution shall furnish any drinking cup for public use, and no person or corporation shall permit on said railroad trains or in stations or at said public or private schools, or in state educational institutions, the common use of the drinking cup."

## CANADA

**Will Not Amalgamate.**—At the recent annual meeting of the Western General Hospital, Montreal, it was decided that the institution would not amalgamate with the Royal Victoria Hospital nor with any similar institution.

**New Toronto General Hospital.**—This institution is to have in its eye, ear, nose and throat department 36 beds; gynecology, 39 beds; general surgery, 145 beds; medicine, 150 beds; emergency, 9 beds, and obstetrics, 36 beds. This arrangement will provide for 124 more beds in the public wards than in the present building, and for 22 more in the private and semi-private wards. The hospital is to cost about $2,500,000, of which $1,500,000 is available.

**Personal.**—Dr. Ethelbert E. Meek has been appointed health officer of Regina, Sask.——Dr. Maurice McD. Seymour, Regina, has been appointed commissioner of the Saskatchewan Bureau of Public Health.——Dr. Robert G. Brett, Banff, Alberta, has gone to Vienna for graduate work.——Dr. J. L. Todd, McGill University, has been awarded a gold medal by the Liverpool School of Tropical Medicine for research work in sleeping sickness on the coast of West Africa.

**Victorian Order of Nurses.**—The annual meeting of the Toronto branch of this order was held February 25 in Toronto. The receipts for the year were $6,078.09 and the disbursements $5,935.05. The medical report was presented by Dr. Harley Smith. Nine nurses had made 9,399 visits in attendance on 799 patients, not including 510 infants who had received care. The number of Toronto physicians who had employed the nurses of the order increased by 40 during the year, bringing the total up to 370 who now ask for their services.

**Hospital Meetings.**—The ex-house surgeons of the Toronto General Hospital will hold their annual banquet and meeting in Toronto on Easter Monday. Dr. Roland Hill of St. Louis will deliver the scientific address. A gold-headed cane will be presented to Dr. Thomas Cullen, Baltimore, the ex-house surgeon, who has made the best contribution to medical literature during the last year.——The fourth annual meeting of the Canadian Hospital Association will be held in Montreal March 28 and 29. The president is Dr. H. E. Webster, superintendent of the Royal Victoria Hospital, Montreal. Dr. Christian R. Holmes, Cincinnati, and other eminent hospital workers will be present. Visits will be made to all the Montreal hospitals and demonstrations held on special features of their work.

**Trying to Improve Ontario's Milk Supply.**—The Ontario Milk Commission appointed by the legislature last spring has presented its report to that body. It recommends that the legislature fix the conditions under which milk is produced; that more attention be paid to cleanliness of cattle and conditions under which milk is produced, as well as the health of cattle; that no milk be sold in shops in cities over 50,000 inhabitants; proper care of handling of cans, bottles and other utensils. The milk supply of Ottawa was found to be the best in Ontario, and that of Toronto the worst, the latter city consuming 2,336 eight-gallon cans per day, coming from 900 farms within a radius of forty miles. Certified milk was the ideal, but probably could never be obtained except for sick and infant feeding. Pasteurization of milk was an expedient, but a good one. The report refers specially to the good work done in the Hospital for Sick Children, Toronto, where a modern pasteurization plant has been installed. It is being used for 1,200 in-patients and 12,000 outside patients. The government is earnestly enjoined to do something to stem the increasing tide of infant mortality by improving the milk supply.

**University News.**—The new buildings of the Medical Faculty of McGill University to replace those destroyed by fire three years ago are nearing completion and will be ready for occupation in the early summer. The next annual convocation will be held in the new building, at which time there will be a reunion of the medical graduates.——A university commission was appointed some time ago by the Manitoba government on the extension and management of the Manitoba University in Winnipeg. The majority of the commission advocates a state university, organized on the basis of the state universities in the United States.——That medical teaching is not satisfactory in the medical department of the University of Toronto, is the burden of the memorandum handed to the board of governors of the university by the new dean of the medical faculty, Dr. Charles K. Clarke. He states that the candidates for the final examinations during the last two years have not been properly qualified or equipped, and that better methods of teaching are necessary. A correspondent in the *Canadian Practitioner and Review* considers this is largely due to allowing experienced teachers to go and employing juniors.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, Feb. 12, 1910.

### The Lowest Birth and Death Rates on Record

The constantly diminishing birth-rate, which has been accompanied by a diminishing, but not so marked, death-rate, has been a frequent subject of comment in previous letters. The figures for 1909, which have just been published, show that once more the records have been beaten. The birth-rate was 25.6 per 1,000 of the population, a drop of 0.9 per 1,000 on the figures for 1908 and the lowest birth-rate on record. On the other hand, there is a decrease in the death-rate, due largely to improved sanitation. The rate is 14.5 per 1,000, also the lowest on record, and 0.2 lower than the rate of the previous year. During the last ten years, the death-rate has dropped 1.6. The death-rate of children under the age of one year also shows a satisfactory decline. During 1909, it was 109 per 1,000 born which is 11 below the rate for 1908. The vigorous work of municipal and philanthropic bodies in appointing health visitors and nurses who give instruction in slum districts on the rearing of the young is evidently bearing fruit. During the last 10 years the infant mortality has dropped no less than 29 per 1,000. There is also a marked decline in the death-rate from epidemic disease.

### Compressed Air Experiments at the London Hospital: The Safest Method of Decompressing Caisson Workers

In the new respiration laboratory at the London Hospital, Mr. Leonard Hill, whose experiments with compressed air have done so much to elucidate the pathology of caisson disease, is conducting an important series of researches in cooperation with Mr. Greenwood on the safest method of decompressing caisson workers. The admiralty regulations for the decompressing of divers are based on experiments on goats conducted by Drs. Haldane and Boycott, but the London Hospital physiologists regard the pig as more closely resembling man physiologically and anatomically and have therefore selected this animal for experiments. They find that they can safely bring out pigs weighing up to 115 pounds which have been exposed to + 90 pounds of atmospheric pressure for two hours, a sufficient time to have saturated most of their bodies with the excess of dissolved nitrogen. Saturated at this pressure the body-water holds in solution from 6 to 7 per cent. of nitrogen, and the body fat from 39 to 49 per cent.—and the pigs were very fat. It is found that the safest method of decompression is to lower the pigs from + 90 to + 20 pounds of pressure in ten minutes, keep them at 20 pounds for two hours, and then lower them to the atmospheric pressure in another twenty minutes. A pressure of 20 pounds seems to be sufficient to keep bubbles of nitrogen from forming in the blood and during the two hours at this pressure the supersaturated blood gives off the dissolved nitrogen from the lungs.

### The Danger from Illness of Locomotive Engineers

In my letter of May 30, 1908 (THE JOURNAL, June 20, 1908), I recorded the death of an engineer on the footplate of an express train a few minutes after leaving Newcastle, and in my letter of Aug. 29, 1908 (THE JOURNAL, Sept. 12, 1908) I reported the case of an engine driver who had just returned from sick leave and while driving a train was seized with paralysis. For a few minutes the fireman was so concerned for the driver's safety that the train was left uncontrolled and dashed at a high speed through a station where it was signalled to stop in order to let an express train from London pass. Fortunately the signalman realized that a disaster was imminent and switched the runaway train on to a branch line just in time to avert an accident. When the train was pulled up the driver was found lying helpless and speechless on the footplate. Recently an engineer on the Midland line died suddenly while in charge of an express train. The train left Leeds at 10 p. m. Sunday night. After pulling up at Derby the driver reeled and fell into the fireman's arms. Fortunately the train was at a standstill. Had the seizure happened during the run a disaster would probably have occurred. The postmortem examination revealed extensive though unsuspected disease of the heart.

### Damages for Malpractice Obtained from Unqualified Dentists

The practice of dentistry by unqualified persons is rife in Great Britain as the law interferes with them only when they use the title "dentist," or in any way imply that they are legally qualified. Only when they are guilty of gross malpractice do they come before the courts. Two flagrant cases have just occurred. In London a woman claimed damages against the "London Hygienic Institute." She was canvassed by a representative of this firm for a set of false teeth. She consented to have a number of extractions and the replacement of the teeth by a denture for $27. Later, the canvasser called, accompanied by another man, and between them they extracted twelve teeth and left the patient in a state of collapse. Before the operation was concluded she was in such a serious condition that one of the men sent out for brandy. For three weeks she was confined to bed and visited by a physician. Before the operation she was given to understand that the extractions would be painless. She was awarded $500 damages. On the same day that this case was adjudicated a still more flagrant one was heard in a Glasgow court. Another so-called hygienic institute (note the avoidance of any word suggestive of dentistry in order to keep outside the clutches of the law) was sued by a stationer. In extracting seventeen of his teeth in order that he might be supplied with artificial teeth the defendants broke his jaw and lacerated his mouth so that before it would be possible for him to be fitted with teeth he would have to undergo a surgical operation. He was also awarded $500 damages. Unfortunately, such cases, which are far from uncommon, do not prevent the continuance of this dental quackery. There are so many dupes that these so-called institutes can well afford to pay damages from time to time. Only when the malpractice is of a glaring description do they come within the clutches of the law.

## PARIS LETTER

*(From Our Regular Correspondent)*

Paris, Feb. 11, 1910.

### Commission for the Study of Antityphoid Vaccination

For more than three months the Academy of Medicine has been discussing the prophylaxis of typhoid fever. At the last session the academy took up the question of the nomination of a commission for the study of the theoretical and practical conditions of preventive vaccination for typhoid fever, in accordance with a resolution offered by Professors Chantemesse and Landouzy. According to Dr. Landouzy, the condition of the country in consequence of the floods made it a duty for the academy to take a stand as soon as possible on the question of antityphoid vaccination. Dr. Netter was opposed to the nomination of a committee on the subject, believing that the facts were sufficiently numerous and well-known to enable the academy to pronounce on them; but a commission, if appointed, might advantageously be given the task of studying the means, as yet entirely unknown, by which bacillus-carriers might be relieved of their dangerous guests. Dr. Vaillard, on the contrary, believed that the Minister of War would ask nothing better than to undertake antityphoid vaccinations if he were sustained by the authority of the Academy of Medicine. Moreover, he believed that it was not for the Academy of Medicine to indicate the means for eliminating germs from bacillus-carriers, since such work could be accomplished only through the clinic and the laboratory. Finally the proposition to name a commission for the study of antityphoid vaccination was accepted. The academy appointed the following members of the commission: Drs. Chantemesse, Chauffard, Delorme, Kelsch, Landouzy, Netter, Roux, Thoinot, Vaillard, Vincent and Widal.

### First Congress of French Interns

The institution of hospital internship, which constitutes one of the distinguishing features of our hospital organization, has in recent years been much attacked. The hospital interns are chosen competitively after having passed through a period of externship. The fault which is found with the competitive examinations is that they chiefly exact efforts of memory and that kind of preparation which Taine called "mechanical cramming." In place of learning to draw a clinical picture from life, from his hospital recollections, the candidate for the internship goes through a system of memory gymnastics which fill his mind with incoordinated facts and fashionable theories. But in spite of the disadvantages of the method of recruiting interns the considerable advantages of the medical instruction which the interns receive cannot be disputed. During the discussion on the reform of medical instruction Dr. Roux, director of the Pasteur Institute, who found fault with this instruction for being unpractical, declared that young physicians were ill prepared for the practice of medicine; but he admitted that the hospital interns, among whom were many excellent physicians, formed an exception, not because they had successfully passed the examination for the internship, but because, after having passed it, they had received a practical medical education for four years in the hospital service. There could not be, then, any question of suppressing the internship, but there is an urgent necessity for studying carefully its actual workings and of seeking improvements.

The Friendly Association of Interns and of Former Interns of the Civil Hospitals of Bordeaux has just taken the initiative in the matter. On the occasion of its thirtieth anniversary, which will be celebrated next May, this association has decided to invite to a family gathering representatives of other internships of the French university centers and to use the opportunity to hold the first congress of French interns, at which all questions pertaining to the hospital internships will be discussed. The questions will bear on the following three main topics: (1) the system of recruiting; (2) the organization; (3) the administration and salaries.

### The Devotion of the Hospital Personnel During the Floods

M. Mesureur, Director of the Public Charities, has just addressed to the heads of the hospital establishments a circular in which he pays a tribute to the devotion of the hospital personnel in the course of the trying period through which Paris has just passed. In the hospitals directly affected by the flood, as well as in the establishments which have come to their aid, the patients have not ceased to receive the most attentive care in spite of considerable difficulties, even when almost all the services were deprived of water, light, heat and cooking facilities. An admirable effort of activity and endurance was put forth to preserve the workings of the hospital, to save the supplies, and to provide against the stopping of the technical services. The supplies were furnished day and night, and more than 2,000 beds were improvised to receive the patients driven from the Hospice of Ivry and the Boucicaut Hospital.

## BERLIN LETTER

*(From Our Regular Correspondent)*

Berlin, Feb. 10, 1910.

### The Building of a "Rudolf Virchow House"

During the celebration of the eightieth birthday of Rudolf Virchow, in 1901, the Berlin Medical Society voted to erect a building to bear the name of the great pathologist who was for many years president of the society, and to serve for its scientific meetings and social affairs. As the society possesses little property it has needed several years to accumulate a fund so that the first step in carrying out this plan, the acquisition of suitable ground, could be taken. The difficulty was further increased by the fact that central real estate for new buildings is very difficult to get and very costly in the so-called medical quarter, that is, the section of the city in which the clinics and other scientific institutions are generally situated and which is best fitted for meetings of the medical profession. At the last meeting of the Berlin medical society a resolution was adopted authorizing the purchase of a piece of ground in Luisenstrasse at the price of 600,000 marks ($150,000). As the capital available for the building is only about $55,000 and the erection of the building itself will require about $100,000 in addition to the cost of the ground, a very considerable time would elapse before we would be in a position to hold the first meeting in the Rudolf Virchow House if the present methods of raising money should be continued. We hope for assistance in this matter from the German Surgical Society. This society is in possession of the Langenbeck House which has hitherto served for the meetings of the surgical society as well as a meeting-place for the Berlin medical society. As this house has become too small for the congresses of the surgical society, which at times numbers 1,800 members, the surgical society feels the necessity of building another house for its gatherings and it can be expected that both societies will combine for the new building. Perhaps some well-to-do colleagues, not only of Berlin but throughout Germany and in foreign countries, will contribute to the erection of this building, which is to be a memorial to the greatest pathologic anatomist and the teacher of the entire medical profession of the world in this generation. Here especially I make my appeal to the German physicians of America of whom a good part have themselves sat at the feet of Rudolf Virchow and received from him their pathological and clinical education. Unfortunately, we do not have here the large donors which America possesses in abundance for the establishment of great scientific and especially medical institutions, and we physicians must help ourselves in this respect. It seems to me therefore so much the more appropriate that the German physicians of the entire world should combine in erecting a building which shall serve as a home for the greatest German medical society.

### Limitation of Privat-Docents

Complaint has been made for a long time that the number of privat-docents in the German universities exceeded that needed for instruction, especially in large cities like Berlin and Munich in Germany, and Vienna in Austria. The excess of privat-docents results in their crowding each other, while a considerable number are destitute of hearers and in addition they interfere with the selection of proper clinical material. Another complaint refers to the reasons why a number of privat-docents attach themselves to the faculty. It is no secret that a certain part of our colleagues join the faculties only because with this title they have a larger rôle in society and can attract patients more readily and secure a larger dowry when they marry, especially if they are so fortunate through outside influence as to be granted the title of professor after a short time. The consideration of this and similar complaints has induced the government and the faculties to limit the number of privat-docents. It is recommended to secure this end first by increasing the difficulty of securing the positions and, on the other hand, by more dismissals. Both methods have been tried, especially by the Berlin medical faculty. For admission the question of need has been raised, the personal relations have been scrutinized, and the scientific requirements somewhat increased. It has further been suggested to call only suitable investigators as privat-docents and in general not to permit any longer the voluntary candidature of privat-docents. A few weeks ago the decision was finally made to guarantee the position of privat-docent only for five years and to prolong this privilege only in case of those teachers who at the end of this time had shown the necessary capacity for research work and instruction. To this decision many are justly opposed. The objection is especially made that not only scientific considerations but also personal sympathies and antipathies and probably even sectarian prejudices, which are justly suspected in the German faculties, might have an influence on such decisions. For this reason at the last two meetings of the German university teachers a resolution along these lines, presented by the Munich psychiatrist, Professor Kraepelin, was voted down. As the minister of education has not yet sanctioned the decision of the Berlin medical faculty, it is to be hoped that the objection made to it will be considered. I say this although, in my opinion, the suggestion of this decision of the faculty came from the authorities of the department of education who have to do with this matter. As the *Deutsche medizinische Wochenschrift* has editorially pointed out with justice, two factors should determine the admission to the position of privat-docent: strict scientific requirements and the avoidance of any concessions on the part of the faculty. The latter have been largely responsible for the surplus.

The majority of privat-docents have been the assistants of the regular professors. These are rewarded to a certain extent by admission to the faculty for the numerous services which they have performed for the regular professors and in regard to the admissions to the position of docent some of the regular professors frequently make concessions to each other. They "trade off," to use a parliamentary expression: a nomination by one professor is accepted in the expectation that he will accept in a similar way a nomination by the other. If each professor gave his opinion regarding the fitness of a candidate for the position of privat-docent, without personal bias, according to his best knowledge, the objections complained of would disappear of themselves.

### Limitations of Consultation Journeys

The city administration of Leipsic advertises a vacancy in the position of head physician in the St. George Hospital and imposes the condition that consultation practice shall be permitted only in Leipsic, and that even here the administration may insist on a limitation under some circumstances. This step is taken on account of the fact that many prominent chief physicians of hospitals and clinics often neglect the duties of their position on account of the demands of consultation practice. However much the consultation journeys serve the interests of the suffering public outside the large cities it must be admitted that the requirements of the authorities are just, as they express the desire that their physicians shall devote themselves primarily to the patients for whose care they have been given their position.

### Smallpox in West Prussia

In consequence of the deplorable sanitary condition of Russia, she sends us from time to time infections which in this country we know only by name. That we had to deal last year with cholera cases which were the advance guard of the great St. Petersburg cholera epidemic I have told you in a previous letter. In a similar way we receive smallpox patients from time to time, partly through the business relations with Russia and partly through tramps who pass through Germany. In this way a small epidemic of smallpox has arisen in Marienburg and vicinity which so far includes about 30 cases. In one village 17 cases occurred. By compulsory vaccination of all the inhabitants of the village, altogether 1,000, it was possible to stamp out the epidemic, a result which should be well worthy of attention by all the opponents of vaccination in Germany and in foreign countries. The mortality was low.

### Disinfection in Tuberculosis

The wish which I expressed in my last letter that the disinfection of dwellings which have harbored patients with lung and laryngeal tuberculosis should be done by the municipality without charge has been fulfilled sooner than might be expected. An order of the administration which has appeared in the last two days has filled the gap.

### Rudolf Virchow Hospital

The affair at the Rudolf Virchow which I reported in my last letter has again been officially investigated and it has been determined that the suicide of the nurse had no immediate connection with the reprimand of the managing director. Still this unfortunate affair has had the good result that a commission has been appointed to investigate the other charges made against the hospital on this occasion.

## VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, Feb. 15, 1910.

### Campaign Against Trachoma in the Austrian Army

The army of Austria-Hungary often numbers among its members individuals who come from regions infected with trachoma who, without showing manifest symptoms, are the source of troublesome outbreaks of this disease. Certain parts in the eastern and southern districts are hotbeds of the infection. Much has been done to suppress it, but the rather low degree of culture and the low standard of life of the inhabitants make it a troublesome task. The conditions of combating trachoma in the army have been recently regulated by an ordinance of the general staff surgeon. Thus each regiment has to contain at least one surgeon, who has had a special training in an eye clinic, of not less than one year's duration. For this purpose a number of scholarships for trachoma wards have been created by the ministry of war. A special (non-military) eye surgeon will be appointed in cooperation with the civil-service authorities for every ten villages in the infected regions, so that he will be able to visit every ten days each of his villages. In these trachoma places special hospitals will be erected, solely for the purpose of treatment of soldiers affected with these diseases. No man suffering from trachoma, when called on to enlist in the army, should be accepted until he be cured. Trachoma of a grave nature makes a person unfit forever for military service, according to Austrian law. A special military oculist shall inspect all trachoma hospitals and patients within certain intervals and report on his observations directly to the general staff surgeon. It must be considered that while 50 years ago nearly 6 per cent. of all recruits were suffering from trachoma, now the percentage has gone down to 0.9 per cent., and in many regiments it is extinguished entirely. In the regiments recruiting from the trachoma regions alone (about 16 regiments) the percentage is at present above 10 still. Mainly for this reason the above-mentioned rules were drawn up.

### Death of Zaufal

By the death of Professor E. Zaufal, who died a few days ago at the age of 77, the Austrian Otologic Society loses one of its most prominent members. He was one of the first assistants of Politzer and has made his mark on the progress of modern otology. He was the first man to show that the acute middle-ear inflammation was the result of bacteriologic influence, especially of the diplococcus. Zaufal developed the *radical operation* for chronic middle-ear suppuration which originated from Küster's clinic. He was the first to point out the importance of examining the fundus oculi in ear diseases; and one of the most important steps in otosurgery; the opening and cleansing of the sinus transversus in otitic sinus thrombosis was performed by him for the first time in 1884.

# Pharmacology

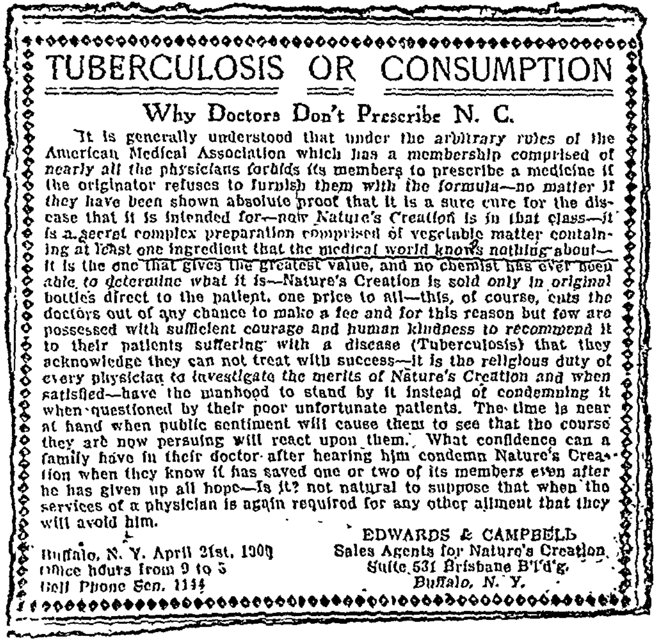
## NATURE'S CREATION

### A Typical Nostrum

Whatever may be said of the morality of nostrum exploitation it must be admitted that it shows no lack of business perspicacity. Should an epidemic of yellow fever sweep over the country, "patent medicines" which have previously been advertised as "cures" for a variety of conditions are immediately heralded either as specifics for, or as unfailing prophylactics against, this scourge. Should influenza be prevalent, the quack remedy that has previously been sold as a colic or rheumatism "specific" is advertised as the one and only reliable cure for *la grippe*. So, too, when the attention of the public is focussed on certain diseases, the "patent medicine" makers are the first to recognize the commercial potentialities of playing on popular interest. This is well illustrated by the innumerable "consumption cures" that have appeared during the last year or two—since, in fact, the institution of an active campaign against tuberculosis.

#### THEN AN "ABSOLUTE CURE" FOR SYPHILIS

An example of the way in which even the merest pretense of scientific consistency is sacrificed by nostrum mongers for the *financial returns of the moment* is to be found in a "patent medicine" now emanating from Columbus, Ohio, called "Nature's Creation." This nostrum was at one time exploited in Chicago as an "absolute cure" for syphilis—or "blood poison." Under the caption "Nature's Creation *vs.* Mercury and Potash" this "cure" was foisted on the public and the ignorant were told that "Nature's Creation and Antitoxin are the only *Real* specifics discovered in recent years." The syphilitic was warned against taking "mercury and potash" and was told that "it is *much* better to let the disease run with no treatment at all than to suppress it with mercury and potash." The viciousness of such doctrine is only equaled by the effrontery which becomes evident when the results of the analysis of this nostrum are considered. "Marvelous Cures" were reported, the records of which were "made under the personal supervision of one of Chicago's most prominent physicians!"



TUBERCULOSIS OR CONSUMPTION

Why Doctors Don't Prescribe N. C.

It is generally understood that under the *arbitrary rules of the* American Medical Association which has a *membership comprised of nearly all the physicians forbids its* members to prescribe a medicine if the originator refuses to furnish *them with the formula—no matter if they have been shown* absolute proof that it is a sure cure for the disease that it is intended *for—now Nature's Creation* is in that class—it is a secret complex preparation comprised of vegetable matter containing at least *one ingredient that the medical world knows nothing about*—it is the one that gives the greatest value, and no chemist has ever been *able to determine what it is*—Nature's Creation is sold *only in original* bottles direct to the patient, one price to all—this, of course, cuts *the* doctors out of any chance to make *a fee and for this reason but few are* possessed with *sufficient courage and human kindness to recommend* it to their patients suffering with a disease (Tuberculosis) that they acknowledge they can not treat with success—it is the religious duty of every physician *to investigate the merits of* Nature's *Creation and when* satisfied—have the manhood to stand by it instead of condemning it when questioned by their poor unfortunate patients. The time is near at hand when public sentiment will cause them to see that the course they are now persuing will react upon them. What confidence can a family have in their doctor after hearing him condemn Nature's Creation when they know it has saved one or two of its members even after he has given up all hope—Is it? not natural to suppose that when the services of a physician is again required for any other ailment that they will avoid him.

Buffalo, N. Y. April 21st, 1909
Office hours from 9 to 5
Bell Phone Sen. 1144

EDWARDS & CAMPBELL
Sales Agents for Nature's Creation,
Suite 531 Brisbane B'l'd'g.
*Buffalo, N. Y.*

Reproduction (much reduced) of part of a leaflet sent out by the Buffalo, N. Y. branch of the concern. The size of the original was 11½ by 9 inches.

#### NOW A CONSUMPTION CURE

As the public became more and more interested in the subject of tuberculosis it apparently was decided that there was more money to be made out of a tuberculous clientele than out of syphilitic patrons: exit the "blood poison" cure; enter the consumption specific.

#### USUAL NOSTRUM CLAIMS

The claims made for "Nature's Creation" make its classification easy: *Genus*, "nostrum;" *species*, "consumption cure;" *variety*, "mysterious unknown plant." As to what it is said to be:

> "Nature's Creation is a secret remedy . . ."
> "Is made entirely from vegetable matter . . ."
> "Contains everything beneficial and nothing harmful."
> "It is a complex vegetable compound, cannot be analyzed."
> "Comprised of vegetable matter containing *at least one* ingredient that the medical world knows nothing *about*—it is the *one* that gives the greatest value, and no chemist has ever *been able* to determine what it is."

But what it is said *to be*, pales into insignificance when compared with what it claimed to *do:*

> "Creates an appetite."
> "Strengthens the heart."
> "Reduces the temperature."
> "Developes atropied cell tissues."
> "Stops night sweats and hemorrhages."
> "Renovates and builds up the entire system."
> "Checks at once further progress of the disease."
> "Positively strengthens and restores the leucocytes."

#### TESTIMONIALS

No enterprising exploiter of nostrums, whether of the "ethical proprietary" or of the "patent medicine" type, need experience any difficulty in obtaining testimonials. As has been repeatedly shown testimonials are about the least expensive part of the stock-in-trade of the nostrum vender. A free bottle or two of the preparation, an order on a local photographer for a dozen photographs, a refund of a portion of the blood-money collected by the exploiter, the not uncommon weakness of the unintelligent to desire to see their name and picture set forth in all the glory of printer's ink or even in some few cases an honest belief in the efficacy of the nostrum—all furnish easy and not costly means of obtaining favorable comment on any "patent medicine" however worthless or vicious.

That the virtues of "Nature's Creation" are extolled via the testimonial route goes without saying; that the testimonials differ in no essential particulars from those common to the "patent medicine" business, is likewise evident. We find that old familiar patient who has been "given up" by numerous physicians and who has *been told that she could* not live more than ten days; "Nature's Creation" is taken at the eleventh hour and death is robbed of one more victim!

To determine the value of a few of the testimonials, *letters* were sent to physicians *living in* the same town as the individuals who have written (?) so enthusiastically regarding the virtues of "Nature's Creation." Here are some of the replies that have been received:

> "In regard to 'Nature's Creation' and Miss ———'s connection with same, I would state that she did not have consumption at all . . . When ——— gets a cold and coughs the least bit she thinks *she* has consumption, and it was during such a spell as this that she commenced to take the fake remedy. I have treated the family and I know positively that anything else would have worked similarly."

The Miss ——— here referred to was advertised as one of those people "whose recoveries have been *most* wonderful." The physician who wrote the above also had this to say of an individual whose case is *not* advertised:

> "There was Mrs. ——— here who really had tuberculosis and came into my hands after spending a great deal of money trying the nostrum and drifting into the last stage. She rapidly got worse all the time she took it and died a short time after I first saw her."

Another physician who was written to concerning another "wonderful recovery" said:

> "As regards ——— and 'Nature's Creation' . . . she is not my patient. . . . I only attended *one* patient who took the wonderful remedy and she praised it up for several weeks and at the end of that time passed from the sphere of 'Nature's Creation' into the presence of the Creator."

Another quoting a fellow practitioner who had last treated one of the marvelous "cures:"

> "Dr. A. says . . . that ——— is no better than he was before taking the nostrum and, in Dr. A.'s opinon, ——— had no tuberculosis, anyhow!"

Of one patient whose testimonial was given much publicity two years ago, a Colorado physician writes:

> "She has been benefited by the change to this climate but *she* is *not cured* and the benefit she has is attributable to Colorado sunshine. Further, she refused to allow this nostrum to use her name in their literature."

### SOME PECULIAR COINCIDENCES

One letter of inquiry was written direct from THE JOURNAL office to an individual living near Columbus, Ohio, whose portrait appeared among other testimonial givers. The reply in itself was amusing, breathing injured innocence and restrained indignation; but some coincidences of a mechanical nature made it even more amusing.

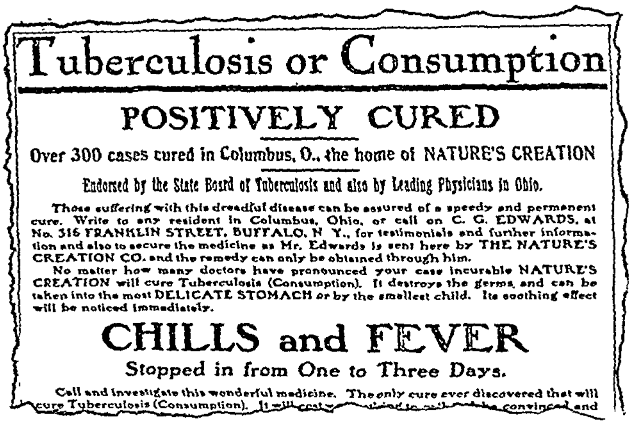
Coincidence 1: The letter was typewritten on a plain sheet of paper that bore a certain watermark; the same watermark is found in the Nature's Creation Co.'s stationery!

Coincidence 2: The machine on which the letter was typewritten had two characters out of alignment; the same two characters show the same lack of alignment in a communication sent out by Nature's Creation Company on *its official stationery!*

Coincidence 3: The degree of indentation of the first line of each paragraph was unusual; the same peculiarity is to be found in a letter emanating from the office of the nostrum company!

Coincidence 4: The "reply" was dated five days later than the letter of inquiry; this is about the time that would be consumed if the testimonial-giver sent THE JOURNAL's letter to Columbus and awaited a reply!

Under the circumstances, it is difficult to avoid the suspicion that the "reply" to THE JOURNAL's letter originated in the office of "Nature's Creation" and was merely signed and mailed by the individual who gave the testimonial.



Tuberculosis or Consumption

POSITIVELY CURED

Over 300 cases cured in Columbus, O., the home of NATURE'S CREATION

Endorsed by the State Board of Tuberculosis and also by Leading Physicians in Ohio.

Those suffering with this dreadful disease can be assured of a speedy and permenent cure. Write to any resident in Columbus, Ohio, or call on C. G. EDWARDS, at No. 316 FRANKLIN STREET, BUFFALO, N. Y., for testimonials and further information and also to secure the medicine as Mr. Edwards is sent here by THE NATURE'S CREATION CO. and the remedy can only be obtained through him.

No matter how many doctors have pronounced your case incurable NATURE'S CREATION will cure Tuberculosis (Consumption). It destroys the germs and can be taken into the most DELICATE STOMACH or by the smallest child. Its soothing effect will be noticed immediately.

CHILLS and FEVER

Stopped in from One to Three Days.

Call and investigate this wonderful medicine. The *only* cure ever discovered that will cure Tuberculosis (Consumption). It will cost [illegible] convinced and

A typical newspaper advertisement of "Nature's Creation." The most extensive advertising seems to have been done in the cities of Columbus, Ohio, and Buffalo, N. Y. Small advertisements have appeared in the classified advertising sections of the New York papers.

### WHAT OUR CHEMISTS FOUND

> *Laboratory Report:* An original, sealed bottle of "Nature's Creation" was obtained direct from the Nature's Creation Company, Columbus, Ohio, and was submitted to the Association laboratory for chemical examination. The bottle was labeled back and front and was wrapped in a circular containing directions for using the preparation. On the front label was pictured in colors a rocky landscape and waterfall over which the words "The Nature's Creation Co.'s Discovery" were printed in red. A facsimile signature, "Mrs. J. M. Reynolds (originator)" was printed *across* the lower part of the label, which also bore the serial number "16050 B." and declared the presence of 6 per cent. alcohol. The label on the other side of the bottle contained directions for using the preparation. "Nature's Creation" is a dark, brown liquid having a sassafras-like odor and a salty, licorice-like taste. Qualitative tests show the presence of iodid, potassium, sodium, vegetable extractive—including some preparation of licorice—and small quantities of sulphates, phosphates, calcium and iron. Appropriate tests indicate the absence of potent alkaloids, salicylates, benzoates, cinnamates, and phenols such as creosote and guaiacol. Quantitative estimations of potassium and iodid indicated that these constituents are present in the form of potassium iodid, equal approximately to 6.00 grams in 100 c.c. of the preparation. Estimation of sulphate and phosphate indicated that these radicles are probably present in combination with small quantities of sodium, calcium and the potassium not present as iodid. These salts are present in quantities too small to have any therapeutic effects.
>
> The examination indicates that "Nature's Creation" is essentially a solution of potassium iodid in a weakly alcoholic medium containing vegetable extractives and flavoring matter and small quantities of inorganic salts.

From the analysis given it seems, therefore, that the main medicinal ingredient of this "complex vegetable compound" which "cannot be analyzed" is potassium iodid. These findings are not surprising when what has been said about the earlier exploitation of "Nature's Creation" as a remedy for syphilis —a substitute for the "potash" treatment!—is borne in mind.

### *REVERSING THE USUAL ORDER*

Many nostrums now on the market were originally exploited to the medical profession as "ethical proprietaries" and after *receiving the necessary quota of testimonials from unthinking* physicians were boldly launched as "patent medicines," pure and simple. The "consumption cure" of J. Q. Lloyd of St. Louis variously known as "Lloyd's Specific," "Re-Stor-All" and "Aicsol," is a case in point. "Nature's Creation" apparently is reversing the usual order. Originally sold direct to the laity, first for syphilis and now for tuberculosis, exploited by means of newspaper advertisements that are probably without a parallel in their vilification of the medical profession, the promoters of this nostrum have the consummate impudence to attempt to foist their "vegetable" mixture of dilute alcohol and potassium iodid on physicians. The Buffalo, N. Y., headquarters of "Nature's Creation" are known as the "Therapeutic Co., inc.," with a Dr. W. H. Baker as its "consulting physician and a director of its affairs." Dr. Baker circularizes the medical profession in the interest of "Nature's Creation" which he claims "is equally as effective and specific in tubercular trouble as Anti-Toxine is with Dyptheria." (Spelling and composition as in original). The "literature" sent out to physicians by the "Therapeutic Co., inc." differs but little from that sent to the laity. The medical profession is given a few enlightening, fundamental facts regarding the composition of the blood—though these facts are known to every school-boy who has reached the seventh grade. There is, however, one important omission in the advertising that goes to physicians, but which appears in that sent to the laity. Here it is:

> "Nature's Creation is a secret remedy and as it is a complex vegetable *compound cannot be analyzed.* This is why the medical profession has not the same medicine."

With this exception there is practically no difference between the "lay" and "professional" advertising. The "consulting physician" encloses with his own letter to the medical men a facsimile letter from Dr. Arthur W. K. Downes, a homeopathic physician of Chicago, who states that "you need have *no hesitancy* in using this medicine in any and all cases of consumption. . . ." In answer to a letter addressed to the "consulting physician," asking for the formula of "Nature's Creation" the secretary of the company wrote:

> "It will be impossible for us to forward to you the formula of the remedy, known as 'Nature's Creation,' as we do not possess the same."

### CONCLUSION

This nostrum is so typical of its class, its method of exploitation so characteristic of the innumerable "cures" that flood the market that in closing we can do no better than quote Mr. Adams in the "Great American Fraud:"

"Our national quality of commercial shrewdness fails us when we go into the open market to purchase relief from suffering. The average American when he sets out to buy a horse, or a box of cigars, is a model of caution. Show him testimonials from any number of prominent citizens and he would simply scoff. . . . Now observe the same citizen seeking to buy the most precious of all possessions, sound health. Anybody's word is good enough for him here. An admiral whose puerile vanity has betrayed him into a testimonial; an obliging and conscienceless senator; a grateful idiot from some remote hamlet; a renegade doctor or a silly woman who gets a bonus of a dozen photographs for her letter—any of these are sufficient to lure the hopeful patient to the purchase. He wouldn't buy a second-hand bicycle on the affidavit of any of them, but he will give up his dollar and take his chance of poison on a mere newspaper statement which he doesn't even investigate."

And of the value of printer's ink as an asset to the exploiter of "patent medicine:"

"Take from the nostrum venders the means by which they influence the millions, and there will pass to the limbo of pricked bubbles a fraud whose flagrancy and impudence are of minor import compared to the cold-hearted greed with which it grinds out its profits from the sufferings of duped and eternally hopeful ignorance."

## *Association News*

### THE ST. LOUIS SESSION

### Announcement of Hotel Headquarters and Meeting-Places

Arrangements are well under way for the St. Louis session of the American Medical Association next June. The Committee on Arrangements makes the following announcements of meeting-places and hotels:

GENERAL MEETING PLACES

| | |
|---|---|
| President's Reception | First Regiment Armory, Grant and Manchester Avenues. |
| General Session | Odeon Theatre, Grand and Finney Avenues. |
| Registration, Scientific and Commercial Exhibits, Postoffice | Coliseum, Washington and Jefferson Avenues. |
| House of Delegates | St. Louis Medical Society, 3523 Pine Street. |
| SECTIONS | MEETING PLACES |
| Practice of Medicine | Third Baptist Church, Grand and Washington Avenues. |
| Surgery | Odeon Theatre, Grand and Finney Avenues. |
| Obstetrics | Y. M. C. A. Bldg, Association Hall, Grand and Franklin Avenues. |
| Ophthalmology | Aschenbroedel Hall, 3535 Pine Street. |
| Laryngology and Otology | Sodality Hall, Grand Ave., between Pine Street and Laclede Avenue. |
| Diseases of Children | Grand Avenue Presbyterian Church, Sunday School, Grand Avenue, near Washington Avenue. |
| Pharmacology | Delmar Avenue Congregational Church, Delmar, West of Grand Avenue. |
| Stomatology | Y. M. C. A., Small Hall, Grand and Franklin Avenues. |
| Nervous and Mental Diseases | St. Louis University Library, Grand Avenue, head of E. Pine Street. |
| Dermatology | Odeon, Recital Hall, Grand and Finney Avenues. |
| Preventive Medicine | Knights of Columbus Bldg., 3549 Olive Street. |
| Pathology and Physiology | Y. M. C. A., Lecture Hall, Grand and Franklin Avenues. |
| General Headquarters | Southern Hotel |

HOTEL HEADQUARTERS

| SECTIONS | HOTELS |
|---|---|
| Surgery | Jefferson |
| Dermatology | Jefferson |
| Laryngology and Otology | Jefferson |
| Practice of Medicine | Planters |
| Pathology and Physiology | Planters |
| Pharmacology | Planters |
| Ophthalmology | Marquette |
| Obstetrics | Marquette |
| Diseases of Children | Marquette |
| Nervous and Mental Diseases | Buckingham |
| Preventive Medicine | Buckingham |
| Stomatology | West End |

## *Book Notices*

The Morphia Habit and its Voluntary Renunciation. (A Personal Relation of a Suppression After Twenty-five Addictions.) With Notes and Additional Cases. By Oscar Jennings, M.D. (Paris), Fellow of the Royal Society of Medicine. Cloth. Pp. 492. Price, $2 net. New York: William Wood & Co., 1909.

This book is a sort of supplement to the author's former book on the cure of the morphin habit. The author here restates his plan of gradual reduction and substitution at a certain point of solutions by rectal injection, together with the use of alkalies in the form of Vichy or the bicarbonates, and spartein as a heart tonic. Self-renunciation is an important feature of the plan, and in this the patient must be tactfully supported. Nothing, he says, can be worse than restraint or compulsory suppression. Other methods of treatment are critically discussed, and the author relates his personal experience of a suppression after twenty-five years of addiction.

Clinical Manual for the Study of Diseases of the Throat. By James Walker Downie, M.B., F.F.P.S.G., Lecturer on Diseases of the Throat and Nose, University of Glasgow. Second Edition. Cloth. Pp. 415, with 104 illustrations. Price, $3.25. New York: The Macmillan Co., 1909.

This second edition has been remodeled and practically rewritten. It gives a brief description of the various diseases of the throat, of methods of examining the mouth and throat, and of methods of treatment, including the newer ones, such as *x*-ray and radium therapy. The book concludes with an enumeration of formulas used in laryngology. The illustrations, especially the colored plates, are good and plentiful, and the book is a practical one for the general practitioner.

Technic of Hydrotherapy and Swedish Massage Employed at The Loma Linda Sanitarium, Loma Linda, Cal. Edition 2. Compiled by George Knapp Abbott, M.D. Paper. Pp. 40. Price, 25 cents.

This is a very convenient little manual, describing the method of applying most of the hydropathic methods. While some are best carried out in a special institution, the majority of the methods described are applicable in ordinary practice and the book ought therefore to be of service to the general practitioner who must instruct his patients or nurses in such manipulations.

## *Queries and Minor Notes*

### PELLAGRA—A CORRECTION

Dr. A. G. Fort, Lumpkin, Ga., calls attention to the fact that in The Journal, Feb. 12, 1910, page 560, in lines three and six, second paragraph, the word *pellagra* should be uncinariasis. This mistake was due to error in transcribing the report of the meeting, but as there is no resemblance between the two diseases we trust that our readers understood the article.

### BOLUS ALBA

*To the Editor:*—In The Journal, Jan. 8, 1910, p. 170, mention is made in an abstract of "bolus alba." I have been unable to find the substance, drug or compound in any books at my disposal. What is it, or where must I look to get the desired information?

J. R. Scott, Waterloo, Iowa.

Answer.—Bolus alba is a nearly pure white clay, similar to kaolin or fuller's earth. It is official in most of the European pharmacopeias. It was formerly much employed in medicine but fell into almost complete disuse. There now appears to be a tendency to revive it. Without doubt kaolin, U. S. P., would answer as a substitute.

### NEW METHODS OF SPUTUM RESEARCH

*To the Editor:*—In The Journal, Oct. 9, 1909, p. 1241, appears an abstract of an article from the *Medizinische Klinik*, August 29, by Dr. P. Uhlenhuth on "New Methods of Sputum Research," giving a method of cleaning sputum for the examination of tubercle bacilli which seems very advantageous in laboratory work. However, in this article the formula is not plainly given. Please give this formula in such a manner that it can be made up by any retail druggist.

I. P. Levi, Anniston, Ala.

Answer.—The substance used by Uhlenhuth is a proprietary preparation, the exact formula of which is unknown to us. The essential components are given in the abstract referred to and a similar preparation can be made by any one by mixing liquor sodæ chlorinatæ with liquor sodii hydroxidi. As the product is used greatly diluted the following mixture of official preparations ought to be equally efficient.

Liquoris sodæ chlorinatæ .......................... 1|4
Liquoris sodii hydroxidi .......................... 1|
M.

One part of this mixture with 4 parts of water is very nearly equivalent to a 5 per cent. solution of the proprietary preparation if the statements made regarding it are correct.

### BORROWING PERIODICALS FROM SURGEON-GENERAL'S LIBRARY

*To the Editor:*—Is it possible to borrow journals from the library of the Surgeon-General in Washington? M. H. S.

ANSWER.—On receiving this letter we wrote Dr. W. D. McCaw, the librarian, who states in reply that while the Surgeon General's Library is essentially a library of reference and not a lending library, books are sometimes loaned to physicians. It is preferred to make these loans to institutions, or societies, whose librarian is authorized by the directors or trustees to make such requests, thereby becoming responsible for the safe return of the books. Physicians can make a deposit of money sufficient to replace the book desired, and this deposit can remain in the library permanently, subject to other loans, or it can be returned immediately on the return of the book in question. The library does not lend unbound journals, old and rare editions of books, volumes of plates, atlases, text-books, or any publication that cannot be readily replaced. Packages are sent and returned by express only, and at the cost of the borrower. Two weeks is the limit of time for loans, although when necessary the time may be extended.

### SOMNIFUGOUS DRUGS WANTED

*To the Editor:*—Will you kindly give me a list of the most efficient somnifugous drugs. I have a patient who complains of extreme lethargy. I have tried various suggestive methods, diet, alteratives and the like, with little or no effect. There is no visible cause for the condition. E. OLIVER, M.D., Ancram, N. Y.

ANSWER.—Drugs are not classified as somnifugous in works on pharmacology and therapeutics. Neither can one find any reference to the milder forms of stupor or hebetude in the works on practice of medicine. It is evidently a subject to which writers have paid little attention. One reason for this is that the symptom is usually connected with others which are more prominent and the removal of the underlying condition usually suffices for a cure.

A thorough diagnosis should first be made. The condition may be the first stage of a stupor depending on organic disease of the brain. The reflexes should be tested and the eyes examined for evidence of a possible brain tumor or other cerebral lesion. In case brain disease is found treatment should be directed to the fundamental condition, as little can be expected from the use of drugs directed to a single symptom. In some cases the condition of somnolence may depend on disturbance of the digestive organs by which blood accumulates in the splanchnic area and a relative anemia of the brain results, assuming, as has been generally held, that there is anemia of the brain during sleep. For such a condition a regulation of diet according to the findings after a test meal and appropriate medication for the digestive condition would be first in order. This symptom may depend on other conditions which will require a thorough investigation by all the means of clinical diagnosis, including the microscope.

# *The Public Service*

## Medical Corps of the Navy

Changes for the week ended Feb. 26, 1910:

Boyd, J. C., medical director, detached from duty as president of the Naval Examining Board and Naval Medical Examining Board, Washington, D. C., and ordered to continue other duties.

Pleadwell, F. L., surgeon, detached from duty as assistant to the Bureau of Medicine and Surgery, Navy Department, and ordered to continue other duties.

Braisted, W. C., surgeon, detached from special duty in the Bureau of Medicine and Surgery, Navy Department, and ordered to duty as assistant to that Bureau.

Barber, G. H., surgeon, detached from the Naval Hospital, Boston, Mass., and ordered to command the Naval Hospital, Olangapo, P. I.

Brownell, C. D. W., surgeon, order of February 17, revoked.

Harmon, G. E. H., medical director, transferred to the retired list from March 5, 1910.

Grunwell, A. G., surgeon, retired, ordered home when discharged from treatment at the Naval Medical School Hospital, Washington, D. C.

Nielson, J. L., P. A. surgeon, detached from the *Buffalo,* and ordered to the Bureau of Medicine and Surgery, Navy Department.

Shippen, L. P., asst.-surgeon, detached from duty with the Marine detachment, Camp Elliott, Canal Zone, and ordered to the *Buffalo.*

Grunwell, A. G., surgeon, transferred to the retired list from Feb. 18, 1910.

Wieber, F. W. F., surgeon, ordered to Washington, D. C., for examination for promotion and then to wait orders in that city.

## Public Health and Marine-Hospital Service

Changes for the week ended Feb. 23, 1910:

Kerr, J. W., asst. surgeon-general, directed to proceed to New York City, on special temporary duty.

Gassaway, J. M., surgeon, directed to proceed to Talmage, Stockton and Napa, Cal., on special temporary duty.

Carter, H. R., surgeon, leave for 1 month from Feb. 5, 1910, on account of sickness, amended to read 1 day, Feb. 5, 1910.

Nydegger, J. A., surgeon, leave for 3 days from Feb. 17, 1910, revoked.

Mathewson, H. S., P. A. surgeon, directed to proceed to East Las Vegas, N. Mex., on special temporary duty.

Clark, Taliaferro, P. A. surgeon, granted 2 days' leave of absence, Feb. 10 and 12, 1910, on account of sickness.

Lavinder, C. H., P. A. s [illegible] leave of absence from Feb. 14, 1910, under [illegible] Regulations.

Lloyd, Bolivar J., P. A. [illegible] ceed to Washington, D. C., and report to [illegible] Laboratory for temporary duty.

McKeon, F. H., P. A. surgeon, granted 7 days' leave of absence from Nov. 20, 1909, under Paragraph 191, Service Regulations.

Lanza, A. J., asst.-surgeon, relieved from duty on the Revenue Cutter *Rush,* and directed to proceed to San Francisco, for duty.

Hotchkiss, S. C., asst.-surgeon, granted 1 day's leave of absence, Jan. 1, 1910, under Paragraph 191, Service Regulations.

Dynan, N. J., acting asst.-surgeon, granted 1 day's extension of leave, Feb. 10, 1910, on account of sickness.

McLarty, A. A., acting asst.-surgeon, granted 10 days' leave of absence from Feb. 18, 1910.

Rodman, John C., acting asst.-surgeon, granted 5 days' leave of absence from Feb. 23, 1910.

Storrs, H. R., acting asst.-surgeon, granted 5 days' leave of absence from Feb. 26, 1910.

Wollenberg, R. A. C., asst.-surgeon, resignation accepted by the President, effective Feb. 15, 1910.

Board of medical officers convened to meet at the Bureau, Feb. 21, 1910, for the purpose of revising the U. S. Quarantine Regulations. Detail for the board: Assistant Surgeon-General L. E. Cofer, chairman; Surgeon H. R. Carter; Passed Assistant Surgeon R. H. von Ezdorf, recorder.

# *Marriages*

OTTO J. FRUTH, M.D., to Miss Helen Gempp, both of St. Louis, February 12.

ANTONIO D'AMICO, M.D., Newark, N. J., to Miss Annina Violetto, of Messina, Sicily, recently.

SAMUEL EDWARD IZARD, M.D., to Miss May Estelle Drummond, both of Newhebron, Miss., February 20.

JOHN D. MCKINNON, M.D., to Miss Jennie G. Newcomb, both of Calumet, Mich., at Grand Rapids, February 17.

BENJAMIN L. FRANKLIN, M.D., Millbrook, Mich., to Miss Bertha Shepard, of Lake Odessa, Mich., at Grand Rapids, February 8.

# *Deaths*

**Elbert Warren Clark, M.D.** Rush Medical College, 1871; a member of the American Medical Association and Iowa State Association of Railway Surgeons; president of the Iowa State Medical Society in 1896; local surgeon at Grinnell for the Chicago, Rock Island and Pacific and Iowa Central railways; a member of the local board of pension examiners; president of the Rush Medical College Alumni Association of Iowa in 1904 and 1905; five times a member of the city council of Grinnell; mayor from 1893 to 1897; president of the city school board for six years, and trustee of Iowa College since 1898; a member of the twenty-third general assembly from Poweshiek county; and state senator in 1906; first vice-president of the Merchants' National Bank; died at his home in Grinnell, February 16, from the effects of a fall received a year and a half before, aged 67.

**Charles Fourgeaud McGahan, M.D.** Dartmouth Medical School, Hanover, N. H., 1886; a member of the American Medical Association; American Climatological Association; American Laryngological, Rhinological and Otological Association; and Mississippi Valley Medical Association; professor of anatomy in the U. S. Grant University, Chattanooga, from 1889 to 1892; a director of the National Association for the Study and Prevention of Tuberculosis; medical director of the Aiken, S. C., Cottage Sanatorium; died at his home in Aiken, February 15, from pneumonia, aged 48.

**William Winslow Eaton, M.D.** New York University, New York City, 1864; a member and formerly president of the Massachusetts Medical Society; formerly vice-president of the American Electro-Therapeutic Association, and president of the Essex South District Medical Society; surgeon of the Sixteenth Maine Volunteer Infantry during the Civil War; president of the Board of Health of Danvers; a member of the local pension examining board; died at his home in Danvers, January 31, from cerebral hemorrhage, aged 73.

**Horace R. Littlefield, M.D.** Rush Medical College, 1870; assistant surgeon of volunteers during the Civil War; surgeon-in-chief of the construction departments of the Oregon Railway and Navigation Company, Northern Pacific Railroad, Washington and Idaho Railway, and Portland and Puget Sound Railroad; died at his home in Portland, Ore., February 17, from the effects of injuries received in a railway accident more than six years before, aged 64.

**Walter Steadman, M.D.** New York University, 1894; of West Hoboken, N. J.; formerly a member of the American Medical Association, a member of the American Society of Railroad Surgeons; surgeon to St. Mary's Hospital, Hoboken; and local surgeon for the Delaware, Lackawanna and Western Railroad; died in Christ Hospital, Jersey City Heights, February 13, after an operation for abscess following typhoid fever, aged 36.

**William Henry Walling, M.D.** Medico-Chirurgical College of Philadelphia, 1889; for several years a member of the faculty of his alma mater; a member of the Medical Society of the State of New Jersey; a veteran of the Civil War; formerly editor of the Philadelphia *Medical Times and Register;* died at his home in Atlantic City, N. J., February 17, from cerebral hemorrhage, aged 73.

**Ezekiel W. Hinton, M.D.** Rush Medical College; a member of the Kansas Medical Society, and president of the Kingman County Medical Society since its organization; a pioneer resident of Kingman county, and formerly superintendent of the State Hospital for the Insane, Osawatomie; died at his home in Kingman, January 15, from cerebral hemorrhage, aged 74.

**Alfred C. Godfrey, M.D.** Rush Medical College, 1890; of Galena, Ill.; a member of the American Medical Association; formerly a member of the faculty of the John A. Creighton Medical College, Omaha; and surgeon of the medical staff of the Presbyterian Hospital in that city; died at the home of his father in Galena, February 18, from tuberculosis, aged 41.

**John Edwin James, M.D.** University of Pennsylvania, 1866; Hahnemann Medical College, Philadelphia, 1886; professor of gynecology in Hahnemann Medical College; senior gynecologist to Hahnemann Hospital and consulting surgeon to the Childrens Hospital; died in Hahnemann Hospital, Philadelphia, February 16, from cerebral hemorrhage, aged 69.

**Don Lee Shaw, M.D.** Rush Medical College, Chicago, 1891; formerly a member of the American Medical Association; a member of the Illinois State Medical Society; professor of surgery and director of the anatomical laboratory in the Chicago College of Medicine and Surgery; died in Kankakee, February 21, from general paresis, aged 43.

**Lorenzo D. Jared,** assistant surgeon of the Twenty-first Illinois Volunteer Infantry during the Civil War; for many years a practitioner of Whiteside county, Ill., and afterward a teacher and botanist of California; died in the Soldiers' Home Hospital, Los Angeles, Cal., Aug. 3, 1909, from valvular heart disease, aged 78.

**Dennis Frank Keefe, M.D.** College of Physicians and Surgeons, Boston, 1909; attending dental and oral surgeon to Rhode Island and St. Joseph Hospital, Providence; a member of the Rhode Island Board of Registration in Dentistry; died at his home in Providence, February 1, from cerebral hemorrhage, aged 43.

**James J. Norwine, M.D.** Missouri Medical College, St. Louis, 1880; one of the first councilors of the Butler County (Mo.) Medical Society; local surgeon at Poplar Bluff for the St. Louis, Iron Mountain and Southern Railroad; died at his home, Nov. 22, 1909, from nephritis, aged 51.

**Edgar Ivory Hanscom, M.D.** Medical School of Maine, Brunswick, 1903; a member of the Rhode Island Medical Society; assistant physician at the State Hospital for the Insane, Cranston, Howard, R. I.; died in that institution, February 19, from septicemia, aged 38.

**John B. Allen, M.D.** Medical College of Ohio, Cincinnati, 1881; a member of the Indiana State Medical Association; formerly president of the Wayne County Medical Society; health officer of Cambridge City, Ind.; died at his home February 18, from tuberculosis, aged 65.

**Josiah Henry Gunning, M.D.** New York University, New York City, 1861; assistant surgeon in the United States Navy during the Civil War; formerly professor of anatomy in his alma mater; died at his home in Oakland, Cal., January 4, from heart disease, aged 68.

**LaFayette Garrett, M.D.** Texas Medical College, Galveston, 1876; a practitioner of Texas for more than fifty years; formerly president of the board of trustees of the Galveston Board of Education; died at his home, Dec. 2, 1909, from senile debility, aged 84.

**Thomas Albert Proctor, M.D.** University of Pennsylvania, 1852; surgeon of the Forty-first Virginia Infantry, and later of the Third Georgia Infantry, C. S. A.; died at his home near Drake's Branch, Va., February 9, aged 80.

**Paul Hellison, M.D.** Norway; formerly surgeon in the Norwegian service; for more than 26 years a practitioner of Deer Park, Wis.; died at his home in that place in August, 1909, from senile debility, aged 72.

**Michael J. Murphy, M.D.** State University of Iowa, Iowa City, 1885; of Cumberland, Iowa; a member of the American Medical Association; died in Fort Worth, Texas, January 15, from acute melancholia, aged 53.

**William Hugh Moore, M.D.** University of Nashville and Vanderbilt University, 1890; of Viola; a member of the Tennessee State Medical Association; died in Pensacola, Fla., February 11, from nephritis.

**Augustus Henry Dieck, M.D.** University of Goettingen, Germany, 1842; for 70 years a practitioner of the sixteenth ward of New York City; died at his home, February 16, from senile debility, aged 91.

**Isaac N. Mathers, M.D.** Manitoba University, Winnipeg, 1907; a member of the Vancouver (B. C.) Medical Society; died in the Vancouver General Hospital, Nov. 9, 1909, from typhoid fever, aged 40.

**Hendricks L. Cartwright, M.D.** University of Louisville, 1878; a member of the Kentucky State Medical Association; died at his home in Burkesville, February 18, from cerebral hemorrhage, aged 61.

**Newton H. Traver, M.D.** New York Homeopathic Medical College, 1861; of Lewiston, Mich.; died in the Harper Hospital, Detroit, February 2, from shock following a surgical operation, aged 72.

**Esther B. Holmes, M.D.** Homeopathic Medical College for Women, Cleveland, 1871; for 30 years a practitioner of Colorado Springs; died at her home in that city, Aug. 26, 1909, aged 66.

**Flavius Josephus Gregory, M.D.** Jefferson Medical College, 1859; assistant surgeon in the Confederate Service during the Civil War; died at his home in Keyesville, Va., February 13, aged 74.

**William King, M.D.** Medical School of Maine, Brunswick, 1887; of Brunswick; died in the Augusta State Hospital, February 15, from mental disease of long standing, aged 52.

**John Gray, M.D.** Yale University, New Haven, 1868; for sixty-five years a practitioner of Connecticut; died at the home of his son in Bridgeport, February 17, aged 89.

**William T. Smith, M.D.** Memphis Hospital Medical College, 1901; formerly of Caddo, Okla.; died at his home in Durant, Okla., Dec. 31, 1909, from pneumonia, aged 34.

**Karl A. Grempler, M.D.** Germany; for more than forty years a dentist of Baltimore; died at his home, Sept. 11, 1909, from cerebral hemorrhage, aged 75.

**John George** (license, Miss.); of Pine Bluff, Miss.; a surgeon during the Mexican War; died in Jonesboro, Tenn., Sept. 28, 1909, from heart disease, aged 86.

**Philip W. Boyd, M.D.** University of Maryland, 1868; a Confederate veteran; died at his home in Winchester, Va., February 13, from nephritis, aged 63.

**G. W. Wasson, M.D.** Medical College of Georgia, Augusta, 1856; a Confederate veteran; died at his home in Fairview, S. C., February 4, aged 89.

**Benjamin Silas Vawter, M.D.** Pennsylvania Medical College, Gettysburg, 1854; died at his home in Washington, D. C., January 5, aged 78.

**Henry J. Waite, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1880; died at his home in Minneapolis, February 11, aged 80.

**George Hayden Stevens, M.D.** Detroit Homeopathic College, 1906; died at his home in Detroit, February 13, from tuberculosis, aged 32.

# Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

## Legislative Notes

### MARYLAND

A pure food bill (No. 57) has been introduced into the Maryland legislature. This bill was framed by a joint conference of the committee of the state society, the governor's commission and the drug exchange committee. A similar bill last year was defeated, mainly on account of the difference of opinion as to who should have charge of its enforcement. At present, all are agreed that the State Board of Health is the proper authority. Practically the only opposition comes from the ice-cream interests, some of the smaller Baltimore dealers wishing to continue to sell ice-cream containing less than 8 per cent. butter fat. The bill defines drugs as all medicines and preparations recognized in the United States Pharmacopeia or National Formulary and any substance or mixture for the cure, mitigation or prevention of disease of either man or animal. Food is defined to include all articles used for food, drink, confectionery or condiment by man or animals. The usual provisions are made regarding standard of strength, quality and purity as well as adulteration, coloring, bleaching, etc. The provisions regarding labeling, misbranding and adulteration are similar to those of the national Food and Drugs Act. The State Board of Health is authorized to appoint a state food and drug commissioner at a salary of $2,500, to administer the law. All examinations and analyses are to be made in the laboratories of the board. The bill is an excellent one and should become a law.

Bill 213 is to provide for the registration and licensing of midwives. This bill is also endorsed by the state society.

Bill 33 is to amend the present lunacy laws of the state and is the result of the work of the present lunacy commission.

Bill 167, an antivaccination bill, has been reported on adversely by the committee.

Bill 221 is to provide for records of cold storage detention of meats, butter, eggs and other perishable provisions and provides that all food stuffs shall bear a tag showing the date of admission to the cold storage warehouse and the date on which they are taken out.

A bill on expert testimony (No. 188) has been introduced by the legal profession of Baltimore. It provides that any judge of any court of record may appoint one or more disinterested skilled persons to serve as expert witnesses, who shall examine into the matters committed to them and report their findings in writing to the court and that such reports shall be filed with the papers in the case, not as evidence but as a basis for the examination of the expert witnesses by the court or by the counsel of either party, but such experts shall not be deemed the witnesses of either party but shall be called by the court. The calling of such witnesses by the court does not limit the right of the parties to call other expert witnesses as usual.

Bill 150 is the usual optometry bill to provide a short cut for untrained and unqualified persons to enter the practice of medicine, at least to a limited extent, and is thoroughly pernicious.

### MASSACHUSETTS

The following bills have been introduced in the state legislature:

H. B. 1130 makes it the duty of every physician, medical student or midwife in attendance at the birth of a child to instill into the eyes of the child immediately after birth a suitable prophylactic for ophthalmia neonatorum.

Bill 615 is to provide for the medical inspection of working children.

H. B. 830 is to provide for appeals from the decisions of local boards of health to the superior court of the county.

H. B. 974 is to restrict the use of common drinking cups and to prevent contagious diseases.

H. B. 977 is to authorize cities and towns to establish homes or hospitals for consumptives.

H. B. 979 is to forbid the storage of any food product in a warehouse or cold storage for more than six months.

H. B. 826 is to amend the Massachusetts food and drugs act so as to make it uniform with the national law.

### NEW YORK

A bill has been introduced into the legislature providing for the licensing and inspection of abattoirs and markets where meat is sold, under the direction of the State Commissioner of Agriculture. The tendency of western stock raisers to ship diseased meat into this state is responsible for this measure.

A bill has been introduced proposing two amendments to the code of civil procedure and the insanity law which aims to meet the situation involved in such repeated attempts to secure freedom as have been made in the case of Harry K. Thaw and others. These amendments provide that writs of habeas corpus and certiorari shall not be issued in behalf of a person who has been committed to, or detained in, a state hospital for insane criminals by virtue of the judicial determination of his insanity by a competent tribunal of civil or criminal jurisdiction and has been granted one writ, except under conditions prescribed by Section 93A of the insanity law. This is a new section of the insanity law and limits the rights of a person confined in a state hospital to a second writ of habeas corpus or certiorari. It requires a certificate under oath of two physicians that they have examined the person under custody and believe him to have recovered his sanity. The authorities of the hospital may present facts in opposition and the granting of the writ is within the discretion of the court.

### NEW JERSEY

The Committee on Medical Legislation and a special committee of the Medical Society of New Jersey have drafted and secured the introduction of a medical practice bill endorsed by the state society. This bill is to provide for the appointment by the governor, with the consent of the senate, of a board of medical examiners consisting of five "old school" physicians, three homeopathic physicians, one eclectic and one osteopathic physician, the bill providing that the board shall remain the same as at present constituted, with the addition of an osteopath. The usual provisions regarding organization, etc., follow. Each applicant must present a certificate from the state superintendent of public instruction showing that before entering medical college he attended four years at an approved public or private high school or had the equivalent of such instruction. Applicants for a license to practice medicine must also produce diplomas from a medical college in good standing with the board, showing that the applicant has studied medicine for four full school years of nine months each. Applicants who graduated prior to July 4, 1903, and who have been in continuous practice for five years since, may be admitted on evidence of three courses of medical lectures while applicants who graduated prior to July 4, 1894, may be admitted on evidence of two years of lectures. Osteopaths must produce evidence of graduation from some legally incorporated osteopathic college in the United States in good standing with the board and must have studied osteopathy for not less than three years of nine months each. After July 4, 1912, applicants for an osteopathic license must produce evidence of four years work of nine months each. Each applicant is to be examined in the materia medica and therapeutics of his school of medicine and the following subjects: anatomy, physiology, hygiene, chemistry, surgery, obstetrics, gynecology, pathology, bacteriology, diagnostics and histology. The board may refuse or may revoke a license for the following reasons, inebriety, criminal abortion, conviction of a crime involving moral turpitude, public advertising of special ability to treat or to cure chronic and incurable diseases, presentation of a diploma, license or certificate illegally obtained or issued under fraudulent or unlawful misrepresentation. Licenses by the board are to be filed with the clerk of the county in which the licentiate resides. Government medical officers, hospital interns, legally qualified dentists, manufacturers or dealers in lenses, artificial eyes, limbs, etc., those engaged in the mechanical examination of the eyes for adjusting spectacles, physicians of other states called in consultation and physicians residing on the boundary line of the state are exempt. The administration of family remedies, chiropody or any religious practices are also exempt. Osteopaths now practicing are required to register within sixty days of the passage of the act. Osteopaths licensed by registration and without examination are not authorized to use any drugs or medicines, serum, antitoxin, vaccine, practice surgery, attend any infectious or contagious disease or sign any death certificate. The definition of the practice of medicine is changed considerably from that of the existing law and provides that any person holding himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition or who offers or undertakes to do so is practicing medicine and surgery. The definition in the existing law turns on the use of the words "doctor," "professor," etc., and of the letters "M.D.," rather than on the actual fact of treatment.

*Bill No. 37 is the usual optometry bill and should be defeated.*

## POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

### Seventh Month—Third Weekly Meeting

### Propaganda Against Tuberculosis

Object: The prevention of tuberculosis. (a) Prevention of spread of infection by early diagnosis; treatment of curable cases and care of advanced cases. (b) Raising resisting power of individuals by higher standard of living, proper hygiene, etc.

Agencies: 1. *Official:* (a) National, work of National Bureau of Health. (b) State, establishment of sanatoriums, educational campaigns, legislation. (c) Local, dispensaries, educational campaigns, legislation, etc.

2. *Private:* (a) Organizations for prevention; (b) institutions for treatment.

Methods: 1. *Research Work:* A study of social aspects of tuberculosis. Relation of tuberculosis to overcrowding, infected tenements, unhealthful occupations, factories and schools, public places, city and country life. Effect of food supply, alcoholism, hygienic surroundings, race, social standing, occupations. Aid of health officers and visiting nurses in carrying out this work. Study of bovine tuberculosis and method of regulation.

2. *Education:* Publication of leaflets and pamphlets. Maxims on street-car transfers. Circulars of advice distributed through labor unions, factories, department stores, churches, etc.; printed in different languages. Popular lectures; use of stereopticon to illustrate. Tuberculosis exhibits, local and traveling. Details of exhibit: I. Where Tuberculosis Breeds: Illustrate with models and photographs of tenements, bedrooms, airshafts, etc.; photographs of back yards, cellars, rubbish and garbage accumulations. II. How Tuberculosis Spreads: The bacillus, dust, street-sweeper, duster, spittoon, poorly ventilated factories, sweatshops and lodging-houses. The house-fly, food supply. III. How Tuberculosis Is Cured: Advantages of outdoor treatment. Photographs of sanatoria, dispensaries, summer camps, etc. IV. How Tuberculosis is Prevented: "Don't Spit." Model tenements, proper ventilations, etc. Use of posters and phonographs in exhibits. Press services. Supplying local newspapers with information regarding prevention and treatment of tuberculosis. Educational campaign through labor unions, etc. Campaign against "Consumption Cures." Schools. Instruction in hygiene in public schools. "Public Health Week." Instruction in spread, prevention and treatment of tuberculosis.

# Miscellany

**Prevention and Correction of Deformities in Paralyzed Children.**—H. Winnett Orr, Lincoln, Neb., states that under normal conditions all parts of the body are beautifully balanced—this is shown especially in the extremities where one set of muscles is kept in balance by a set of opponents. Any paralysis may lead to deformity by giving the unparalyzed muscles an advantage so that they contract without opposition and produce distortion of the part of the body in that vicinity. This is called contracture deformity and such deformity is always preventable if proper support is provided to protect against overcontracture of the strong muscles. Of course, by "proper support" we may mean rather complicated splints or apparatus but such treatment can always be made to do good in such cases. Immediately after poliomyelitis, for example, complete rest is of the utmost importance. When any function can be resumed the affected parts of the body must be protected against distortion by suitable apparatus. If contracture deformity occurs under these circumstances some one is to blame. Massage, electricity, baths, etc., are only of value when used in connection with such apparatus. Plaster of Paris will make suitable splints in the majority of cases. After deformity has occurred correction may be made by forcible "bloodless" correction, by tendon division combined with manipulation or by the transplantation of the tendons of strong muscles into the distal ends of weak muscle tendons. The time for the performance of any of these procedures must be carefully determined after a careful estimation of the patient's condition. After any such procedure the putting up of the corrected part in a retention apparatus (preferably plaster of Paris) must be done without tension. Finally, physicians must learn the possibilities of prognosis in these cases so that the patients will not fall into the hands of irregular practitioners and institutions. They can be protected against deformity and it should always be done.—Abstract of paper read before Elkhorn Valley Med. Soc.

**Are Hygienic Measures Eugenic?**—Irving Fisher, of the National Conservation Commission (*Hygiene and Physical Education*, December), says the question has been raised whether reduction in infant and child mortality will not weaken rather than strengthen the race by interfering with natural selection and favoring the survival of the unfit. It is pointed out that mortality at later stages of life has not decreased as has that in the earlier stages. This may be explained by the fact that improvement in hygienic living has not as yet affected adults as much as children. Parents are quick to apply new methods for preventing disease in their children, such as sterilizing milk, but do not take the same precautions for themselves, and modern conditions may produce in some respects more unhygienic habits among adults than prevailed under simpler conditions of a generation ago. It must be borne in mind also that the same childrens' diseases and other causes which tend to kill the unfit child also tend to hinder the proper development of the fit. The lessening of children's diseases will have the effect not only of prolonging weak lives, but also of developing and prolonging the strong. Where infant mortality is high, mortality at all ages is high. Fitness is relative to environment. A lessening of physical strength cannot be called degeneration if conditions under civilization do not require the same physical strength as our barbarian ancestors needed. It is adaptation to existing conditions which measures fitness. With high health ideals will come a demand which will prevent the perpetuation of the unfit and through the mere force of public opinion lead in general to healthier marriages.

**Teaching Sexual Hygiene to Boys.**—Dr. Marshall H. Bailey, of Harvard University (*Hygiene and Physical Education*), asks whether it is better to allow the boys to get a mixture of truth and error in regard to sexual matters from their associates in school or on the street, or the truth from a more reliable source. Opposition to instruction in the laws of life is general. After corresponding with twenty-eight prominent medical institutions he found instruction in the hygiene of sex is given in nineteen and not given in six. In German universities a circular containing solemn warnings is given out, but Dr. Bailey believes more good could be accomplished by giving instruction before entering university life, and besides that the great bulk of the young do not go to college. He therefore believes a circular of information compiled by a committee endorsed by the signatures of a considerable number of representative men and women should be sent to parents with a letter asking them to read it and then decide whether or not it should be presented to the boy either by themselves or the family physician.

**Treatment of Tuberculosis at Loomis Sanatorium.**—The Thirteenth Annual Report (1909) of the Loomis Sanatorium for the treatment of tuberculosis shows that of 205 patients discharged during the year, there were 15.61 per cent. of "apparent cures," as against 21.52 per cent. during 1908, due to the fact that the average stay of the patients in 1909 was 30 weeks, as against 43.17 weeks in 1908. Thus there seems to be established a definite relation between the duration of residence and the results of the treatment. Thirty-five out of 205 patients discharged during the year "apparently cured," were given tuberculin treatment, in addition to the regular hygienic and dietetic measures of the sanatorium. The results showed a considerable advantage in favor of the tuberculin, but the patients were selected and their residence in the sanatorium was longer. Still it seems to be proved in this institution, as well as in others, that this specific treatment, combined with the ordinary measures, has a percentage of advantage. In patients whose symptoms did not positively contraindicate it, controlled autoinoculation by exercise was practiced under rigid supervision. This was effected by manual labor in the way of timber thinning, landscape gardening, etc. Improvements have been made in the dietetic system of the sanatorium which enables the staff to control the diet of the patient with scientific precision. An investigation was begun of the present condition of all patients discharged since the opening of the institution, but the work was not sufficiently advanced to publish the results in this report. The value of such an investigation will be great.

# *Society Proceedings*

## COMING MEETINGS

Alabama, Medical Association of State of, Mobile, April 19-22.
Am. Laryn., Rhin. and Otol. Society, Washington, D. C., April 28-30.
Arizona, Medical Association of, Phoenix, April 20-21.
California, Medical Society of State of, Sacramento, April 19-21.
Conf. State and Prov. Bds. of Health, Washington, April 28-29.
District of Columbia, Medical Association of, Washington, April 26.
Florida, Medical Association of, Jacksonville, April 6-8.
Georgia, Medical Association of, Athens, April 20-23.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 26-28.
Missouri Valley, Medical Society of, Omaha, March 17-18.
Mississippi State Medical Association, Oxford, April 12.
South Carolina Medical Association, Laurens, April 19-21.
Tennessee State Medical Association, Memphis, April 12-14.

## CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION AND OF THE COMMITTEE ON MEDICAL LEGISLATION OF THE AMERICAN MEDICAL ASSOCIATION

*Held in Chicago, Feb. 28-March 2, 1910*

Heretofore the annual conferences on medical education and medical legislation have been held at different times and places. Since the work of the two conferences was so closely related, however, and since many delegates were being asked to attend both, it was determined this year to hold the conferences of these two committees of the American Medical Association at the same time and place. This joint conference met at the Congress Hotel at 10:00 a. m. and was called to order by Dr. Arthur Dean Bevan, Chicago, Chairman of the Council on Medical Education.

### Address of Chairman

DR. ARTHUR DEAN BEVAN, Chicago: We are called together for the purpose of improving the medical educational standards and we feel that we can discuss this whole subject freely and fully even though some of the facts brought out criticize some states and some medical institutions. Many of us here know the difference between the modern intelligent medical care and the ignorant charlatan care of the sick. 1. We have seen the woman dying of child-bed fever which might have been prevented by the intelligent aseptic conduct of her confinement. 2. We have seen the child dead from unrecognized and untreated diphtheria, when the death might have been prevented by early laboratory or intelligent clinical diagnosis and the proper use of antitoxins. 3. We have seen the pinched and dusky face of the man dying of peritonitis, which could have been prevented by early diagnosis and proper operative treatment.

We who are medical men know the great difference between intelligent and ignorant, between trained and untrained medical care. But the public does not know; it does not understand. The public does not as yet realize the importance of public health measures and of measures aimed at securing properly trained medical practitioners.

From a study of the subject of medical education during the last eight years, I desire to present to you briefly some conclusions:

1. Medical education and medical educational standards are not in a satisfactory condition in this country. Great improvements have been made in the last ten years and, although the situation is encouraging, conditions as a whole are not only unsatisfactory, but not even acceptable.

2. When we met six years ago at the first conference on education there were over 160 medical schools in this country. There are now about 140 medical schools. The number should be further reduced to 60 or 70.

3. It costs more to conduct a modern medical school than the amount which can be obtained from students' fees. The 60 or 70 schools which should survive must receive either state aid or private endowment.

4. The medical school of the future must be developed as the medical department of a university.

5. The study of modern medicine demands: (1) a certain preliminary education; as a minimum this should be eight years in the primary school; (2) four years in the high school; (3) at least one year in special preparation in the premedical sciences of chemistry, physics and biology; (4) four years in the medical school, two years in the laboratories of anatomy and physiology, pathology and pharmacology; two years in clinical work in medicine, surgery, obstetrics and the specialties; and finally (5) at least one year of practical work as an intern in a hospital. And the time has about arrived when provision should be made for including this hospital year in the medical course.

6. The state licensing boards of the various states should have the legal power to insist on a proper preliminary education and a proper medical course, and they should have the right to refuse recognition to work done in colleges not offering proper medical instruction and the examination for medical licensure should be of such a practical character and so thorough as to determine the ability of the applicant to practice medicine. This power is necessary in order to protect the people of the state against ignorance and quackery. No public health measure is of greater importance than that aimed at securing properly qualified medical practitioners.

7. In order to secure proper medical standards throughout the country we must have the united support of the state boards, the medical profession, the medical schools, the universities and, what is most important of all, public opinion.

8. In order to obtain this support we must carry on a campaign of education showing what the existing conditions are and what changes are needed in order to secure conditions which will best safeguard public health, secure proper medical attention for the sick and aid in the advancement of medical knowledge.

With the knowledge which is now available of the conditions of the medical schools in this country, *i. e.*, that only about half of them are teaching medicine in an acceptable way, and with the power possessed by the majority of the state boards to determine what constitutes a medical school in good standing, it would seem easily possible for the state boards acting either independently or conjointly to compel these unsatisfactory schools to come up to an acceptable standard or else to go out of existence. The teaching of modern medicine is too serious a function. The turning out of ignorant and poorly qualified physicians is too great a menace to the community to permit this sort of thing to go on. This review of the medical schools shows that of the 140 medical schools in this country only about half are acceptable. Turning from this very depressing picture to an analysis of the better schools we find *much reason for encouragement.*

The Council believes that the coming American standard will be: a four-year high school education; a year or two in the university laboratories in chemistry, physics and biology; four years in the medical school and a clinical year as an intern in a hospital.

### Secretary's Report: Inspection of Medical Colleges

Dr. N. P. Colwell, Chicago: All the work done by the Council on Medical Education since it was created in 1904 has been focused on the investigation of medical colleges preparatory to issuing a classification of medical schools. In making the investigation, the chief aim has been to point out reasonable standards of medical education and to assist the colleges in any way it could in the fight many of them have been making to keep pace with the advances, which through modern methods of research have been made in knowledge of the causation and treatment of disease.

Following the first tour of inspection, the Council was criticised in certain quarters for not publishing outright its classification of medical colleges. That classification was not published, however, because the Council desired to give a number of colleges which were contemplating improvements the opportunity to make good. The delay has been more than justified. Many colleges have made extensive improvements, numerous mergers have been brought about and, on the whole, the situation has been greatly improved. The general conditions as revealed by the first inspection, however, were given the widest possible publicity, so that at the present time any plea of ignorance of the demands of modern medicine is unworthy of consideration. In the second tour of inspection, complete data regarding each college has been obtained and the whole field carefully reviewed, so that now further delay in the presentation of a classified list would not be justified and would unnecessarily prolong the existence of low standards.

Reference has just been made to the amazing variety of institutions professing to teach medicine in whole or in part which are annually turning out thousands of graduates who seek the privilege of practicing medicine. While some of these graduates may be thoroughly competent, there are doubtless many who are illiterate, untrained and decidedly incompetent. While they may differ greatly in their theories of disease and their methods of treatment, those who by whatever means secure the right to practice will be alike in this respect: they will all be required to differentiate between the normal and the abnormal; they must determine the nature of diseases, injuries and deformities and in many of their cases what they do or fail to do will mean the life or the death of the patient.

The only legal barrier which can protect the public from ignorant, untrained and incompetent practitioners is the state medical licensing board. It is of extreme importance, therefore, that in each state there should be a single licensing board, that its members should be selected because of their special fitness for the work involved and that this board should be given full authority in the premises. Instead of that we now have in our 49 states and territories 82 different boards of medical examiners including the sectarian boards. In some states the responsibility for defending the public against ignorance, incompetence and fraud, is divided among as many as 4 separate boards.

The point to be borne in mind is that an osteopath is required to make a diagnosis just as a medical practitioner is, and, therefore, needs a similar training in the fundamental medical branches. Lower educational standards for osteopaths, therefore, are a serious menace to the public and an unfair discrimination against medical practitioners. Regarding osteopathic colleges also it should be stated that owing (a) to their lower preliminary requirements, (b) to their shorter course for the osteopathic degree, (c) the few instructors in their faculties who have had a scientific medical training and, more important still, (d) to the serious if not absolute lack of laboratory equipment and clinical facilities not one of the osteopathic colleges in the United States can be compared even with those medical colleges which have been rated as not acceptable by the Council on Medical Education.

State licensing boards are fighting the people's battle against ignorance and incompetence, sometimes without the support either of the public or of the medical profession, and they are often seriously handicapped. That some states have not already been overrun with incompetents is due entirely to the examining boards which have found methods by which the unfit could be excluded even with the limited authority allowed them by ther legislatures. The time has come, however, when the medical profession and the people of each state should see to it that a single board of competent medical examiners shall control the licensing of all practitioners of medicine and that this board be given full authority. This one barrier between the sick and afflicted and the crowds of ill-trained and incompetent practitioners must be made effective.

### Other Reports and Addresses

The rest of the morning was taken up with reports of special committees which will be covered in the continuation of this report in The Journal next week.

At the Monday afternoon session the following addresses, which will be published in The Journal, were given:

"Standards in Medical Education as Related to Standards in General Education," Hon. Elmer Ellsworth Brown, United States Commissioner of Education, Washington, D. C.

"The Obligations of the University to Medical Education," President Henry S. Pritchett of the Carnegie Foundation for the Advancement of Teaching, New York City.

"The Relation of the University to the Medical School," President J. G. Schurman of Cornell University, Ithaca, N. Y.

"Some of the Functions of a University Medical School," Dr. Victor C. Vaughan, Dean, University of Michigan College of Medicine and Surgery, Ann Arbor.

These addresses will be printed in the near future in The Journal.

*(To be continued)*

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## MEDICAL SOCIETY OF THE STATE OF NEW YORK

*One Hundred and Fourth Annual Meeting, held at Albany, Jan. 25-26, 1910*

*(Concluded from page 736)*

### Osteitis Deformans (Paget's Disease); Report of Two Cases

Dr. Henry L. Elsner, Syracuse, spoke of the various conditions included under osteitis deformans, hyperostoses, leontiasis and kindred conditions as purposeless enlargements of the bone, and went extensively into the history of the subject, tracing its development from the days of Malpighi to the present time. He believes it safe to adhere to Paget's original characterization of the disease, the symptomatology of which has not been changed, although we have learned much concerning its pathology during recent years. He described two cases. One patient is a woman of 62, in whom the leading symptoms are asymmetrical hyperostoses affecting the right half of the cranial vault, the left clavicle, the right ilium, and the left femur, with secondary changes in the spinal column, arteriosclerosis, aortic (valvular) obstruction and mitral insufficiency. The case is classical and answers in every particular the requirements included in the original definition of the disease. The second case is probably the youngest of Paget's disease on record. The patient is 17 years of age; the bone growth dates back five years. In both of the cases reported there was a history of traumatism. In the first case, the patient, when 6 years old, was thrown from a carriage, striking on the right parietal bone, the point at which, when she had reached her fifty-fifth year, the disease commenced. In the second case, there is a history of fracture of the femur. The leading features of the second case are the marked changes in the rami of the lower jaw, the decided thickening of the left parietal bone, the enormous enlargement of the sternal end of the right clavicle, the surprisingly large right ilium, the enlargement of the right humerus and forearm, the increase in the length of the arms and the increase of the size of the right foot, with the characteristic decalcification and abnormal bone growth pathognomonic of Paget's disease. In the second case, *x*-ray exposures confirmed the diagnosis. The first patient refused to be *x*-rayed or photographed.

Dr. Elsner discussed the rarity of this pathologic entity and gave data to prove this, there being less than 100 cases on record. He went extensively into the study of the bones involved, and considered the possibility of making a diagnosis with the involvement of one bone only, and proved that asymmetrical cases may become symmetrical, and that after a long period of hyperostosis cranii distant bones may hypertrophy and show the characteristic changes of Paget's disease. He also considered the relative frequency of malignant growth following these changes.

Paget's disease may be either painful or painless.

The history of traumatism in both of the cases reported is an interesting feature. In Case 1 the prime changes were found in the bone, which was injured when the patient was 6 years of age. In Case 2, the enlargements of the bones are distant from the seat of fractures sustained five years before other bone changes began. In the absence of positive knowledge with regard to the etiology of the condition, Dr. Elsner said that he had wondered whether, when Nature was called on to provide new bone or repair injured bone, the habit of bone formation may not have been stimulated and finally formed; and whether in these cases with a positive history of traumatism that factor ought not to be considered provocative. There is a growing feeling, he said, among those who have observed these cases that the majority of the patients suffer from some vascular change. Arteriosclerosis has been a frequent accompaniment. Valvular lesions were present in many of the reported cases. Paget's first patient suffered from mitral disease. In Case 1 the patient has arteriosclerosis and aortic valvular obstruction, with marked mitral insufficiency. In Case 2 the patient has an unstable circulation and muffled heart sounds, but no evidence of arteriosclerosis. Dr. Elsner directed attention to the close facial resemblance of patients suffering from this disease. Just as all acromegalic and myxedematous patients grow to look alike as these diseases advance, so do these patients with skull changes grow to resemble each other. He also discussed the eye changes and took up the differential diagnosis and the value of *x*-ray pictures. He gave a summary of the pathologic findings as reported by various writers and concluded that widespread resorption and enormous hyperplasia produce the changes in osteitis deformans; that decalcified bone is formed in the majority of these, but that there are exceptions to this rule, and that occasionally there is a calcified deposit; that, so far as we know, no treatment has had the slightest influence in controlling the disease; that we must depend on Nature's compensatory provision by which the denser bone is finally deposited; that the disease is not specific; that the Wassermann reaction has been absent in all cases in which it has been tried by Kutsche since its introduction into medicine.

### DISCUSSION

DR. WISNER R. TOWNSEND, New York: I wish to mention a case I have had under observation and which is one of 4 cases I have seen. This patient is a young woman, aged 38, whom I saw for the first time early this summer. She stated that for years previous to this time she had weakness in her left hip. There was no pain, but stiffness was marked whenever she exercised a great deal. One and a half years ago the patient ran to catch a train and on rising after a few minutes' rest she found that she was very lame and the joint suffered greatly. This condition increased with motion. There was great pain on either motion or pressure. She has been using crutches ever since. She was admitted to the hospital April 29, 1909, carrying crutches. There was slight edema of both legs below the knee, and there was slight grating of both shoulders, the left being more marked. The wrists were the same. The fingers were slightly, if at all, involved. The temporomaxillary joints apparently were not involved. Both femora were rotated outward and the upper end of the left one was very prominent. The femur and tibia of the left side were larger than those of the right. There were no head symptoms. There was no headache. There was no enlargement of the head or of the facial bones. There was no enlargement of the bones of the upper extremity and this was tested not only by personal observation, but with *x*-ray pictures which show nothing abnormal so far as can be seen.

The blood count showed: reds, 4,560,000; white count, 9,000; hemoglobin, 90 per cent.; polynuclears, 67 per cent.; lymphocytes, 26.5 per cent.; eosinophils, 2.6 per cent.; transitionals, 2.5 per cent; mast cells, 2.0 per cent.

The patient is a very frail woman. She weighed from 105 to 110 pounds, was not large, and apparently was not in any sense diminished in height, but there was a bending at the femoral neck, or what is called coxa vara and she had a very large area there of rarifying osteitis. The tibia was markedly changed and thickened, and had all the characteristic symptoms of Paget's disease. This woman has been kept under observation and at present there is no sign whatever of any increase in the head measurements, or head symptoms, and apparently there is no increase in any other symptoms. In other words, the condition seems to be limited practically to the left lower extremity, although there is a slight change in some of the bones of the right lower extremity. I believe the condition is wholly progressive and well illustrates the type of disease in which the head is not involved. Whether the head will become involved eventually or not, I do not know. Dr. Elsner stated that in his cases the head involvement came early. In this case the woman had noticed the symptoms I have mentioned for years. The condition is not so rare as some of us believe, because I have seen 4 cases. This is a small number when we consider the number of patients I have an opportunity of seeing at the Hospital for Ruptured and Crippled during the course of a year. Nevertheless it is an interesting disease.

DR. CLARENCE COON, Syracuse, gave lantern slide demonstrations of *x*-ray pictures of osteitis deformans and of stomach and intestinal diseases.

### *Pellagra*

DR. C. H. LAVINDER, Washington, D. C., gave a general talk on this subject. He gave an interesting account of the early history of the disease and what Italian and other physicians had accomplished by their investigations and treatment of it. He mentioned its prevalence in this country at the present time and the efforts being made to combat it.

### Test Meals and Feces Examination: New Methods and Their Clinical Value

DR. ANTHONY BASSLER, New York: In nearly all cases of early gastric carcinoma and in latent ulcer, no value comes from the bacterial tests with test meals. Abnormal bacterial conditions of the colon are oftener matters of assumption rather than of accurate clinical diagnosis, for not all of the bacterial conditions of the gut show indol in the urine. The dietetic and neurotic conditions of the stomach do not give more than the merest bubble, but in ulcer and cancer I found that this was higher. In the normal individual the feces and water tests show a low gas result on the strict meat diet; the ordinary mixed diet shows a higher result, while that of the strict carbohydrate diet is the highest of all. When in the nutritive media the gas result is higher than normal, the patient is placed on a strict meat diet and the watery suspension test is performed, at which, should the gas result be higher than a meat diet should give, the diagnosis of the indolic form of chronic interstitial putrefaction is suggested. On the other hand, should the gas result in the nutritive media be lower than normal, the patient should be placed on a strict carbohydrate diet to see if the gas from the watery suspension of feces still remains below what was ordinarily seen in the individual on such a diet at which, when the result is positive, the diagnosis of the more common saccharobutyric form is suggested.

## Medicolegal

### The Drug, Sufficient Administering and Evidence of Pregnancy in Abortion Case

The Supreme Court of Iowa says that the defendant in the case of State vs. Stafford (123 N. W. R. 167) was charged with having administered a certain noxious substance to a woman named, she being pregnant, with intent to cause a miscarriage. The evidence left no doubt but that at her request he procured cotton root and wintergreen for her, brought her a substance that he represented to her was what she desired, and advised her how to take it.

Whether the drug furnished, when taken, would produce a miscarriage, was not material, save as bearing on the motive with which the defendant acted. The name of the substance need not be alleged in the indictment. Nor was it necessary that it be proved to have been noxious, though so alleged. Undoubtedly the word "noxious" was used in such indictments at the common law; but it is not in the Iowa statute defining the crime. That makes the intent the chief element in the offense. Hence the word "noxious" in the indictment, as it was merely descriptive of the substance, like that of a weapon or wound in charges of murder, might be treated as surplusage. So that all essential to be proven was that the defendant wilfully administered "any drug or substance whatever." That he procured and delivered to the woman such drug or other substance for the unlawful purpose was sufficient proof that he "administered" it.

Proof of pregnancy was essential under the Iowa statute defining the crime. Decisions holding otherwise construe statutes materially different from that of Iowa. But it was not necessary that the woman be proven quick with child, as at common law. Difficulties in the proof of condition prior to that time are to be encountered, but absolute certainty is not exacted even in a criminal action. All that is necessary is that the evidence be such as to support the conclusion that the woman was enceinte beyond a reasonable doubt.

In this case the woman and the defendant had been indulging in sexual intercourse for more than a year. She had missed her menses on December 25 or 26, and in January became convinced that she was in a family way, and so informed the defendant. With that understanding the drug was procured and taken, resulting in her serious illness January 20, when she was removed to her home, and during the first week in February discharged from her vagina a substance which she testified resembled a blood clot. She was in health, save that she had a cold in December, and the circumstance of missing her menstrual flow twice in succession was not otherwise explained. The court is of opinion that the evidence was sufficient to carry the issue as to whether she was pregnant to the jury, even though two physicians expressed the opinion that at so early a period it could not be known with certainty without a microscopic examination or the discovery of the ovum whether she was enceinte. As said, absolute certainty is never exacted; all the law requires is such reasonable certainty as shall silence all reasonable doubt.

As the woman was not an accomplice, corroboration of her testimony was not essential.

A judgment of conviction is affirmed.

### Circumstances Under Which a City Should Not Be Enjoined from Using a Public Park Building for Pest-House

The Supreme Court of Kansas says, in City of Manhattan vs. Hessin (105 Pac. R., 44), that this was an action brought by the latter party to enjoin the city from using one of its buildings as a pest-house. In the city is located the State Agricultural College, which is attended by about 2,000 students, who room and board in club and boarding-houses throughout the city. In the early spring of 1909 smallpox appeared among the students in some of these club and boarding-houses. The contagion spread so rapidly that the board of health was unable to control it with any quarantine regulations or by any plans of isolation which could be adopted. An epidemic seemed imminent. In this extremity the board sought for houses throughout the city which could be temporarily used for pest-house purposes, but none could be obtained. However, in a public park owned by the city there was a stone building which had been erected for a floral hall, which was used for that purpose while the fair was in operation, but was not at the time in question occupied for any purpose. It could be used fairly well for the purposes of a temporary pest-house, and was adopted by the city for that use. Twelve patients were placed therein, and guards properly stationed to prevent the further spread of the disease, which was in that stage of development when it was most contagious. The plaintiff resided in property adjoining the park, about 500 feet from this building, when, fearing contagion, he obtained from the judge of the district court a temporary order of injunction prohibiting the removal of any other patients to such building, and requiring those already there to be removed within ten days. The city appealed to the Supreme Court, insisting that its officers were charged at the time this action was commenced with the duty of providing means to prevent an epidemic of smallpox, and that the performance of such duty involved the exercise of official discretion which could not be judicially controlled by injunction. The Supreme Court takes the city's view, and holds that the issuance of the injunction under the circumstances shown was error.

The city officers were compelled to perform these duties promptly. It was impossible for want of time to select a site and erect a suitable building. The situation presented an emergency which the officers were compelled to manage without delay, and in such a manner as would protect the rights of all interested parties. In this case the city and its officers were prohibited by the injunction from performing an important public duty. Public officers who are required by law to perform duties involving the exercise of judgment and discretion cannot be controlled by injunction while in good faith performing such duties.

## Current Medical Literature

### AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### New York Medical Journal

*February 19*

1 *Visceral Angioneurosis. S. S. Cohen, Philadelphia.
2 *Thymus Gland Treatment of Certain Diseases. F. Gwyer, New York.
3 Dietetic Points in the Home Treatment of Tuberculosis. H. S. Anders, Philadelphia.
4 Treatment of Cervical Tuberculous Lymphadenitis and Tuberculous Dermatosis by the X-ray. R. H. Boggs, Pittsburg.
5 The Fight Against Tuberculosis. W. S. Mills, New York.
6 Piper Methysticum or Kava in its Effects in Gonorrhea. P. Bartholow, New York.
7 Multiple Fracture of Both Bones of Leg and Dislocation of the Ankle Treated by Passive Exercise. F. T. Woodbury, Fort Assiniboine, Mont.
8 Hypertrophy of the Mamma: Male and Female. W. A. Tatchell, Hankow, Central China.
9 Primary Sarcoma of the Ciliary Body. E. L. Klopp, Philadelphia.

1. **Visceral Angioneurosis.**—By the term visceral angioneurosis it is intended to imply that the manifestations of disordered function under discussion arise from circulatory disturbances rather than from primary tissue change in the organs affected, and to suggest their relationship with the familiar circulatory disturbances in the skin to which the term angioneurosis is commonly applied. The symptomatology of the visceral angioneurosis is multiform and somewhat vague. The final element in the diagnosis, however, is the patient—his physical characteristics, his reaction to environmental change, his familial and hereditary liabilities, and his previous personal pathologic history. Cohen reports 15 cases.

2. **Thymus Gland Treatment of Certain Diseases.**—At the end of three years work Gwyer is more than ever fixed in his belief that in the use of thymus gland will eventually be found a valuable treatment for cancer, for that class of diseases due to improper metabolism, and possibly for tuberculosis. In his work, either the dried powdered thymus was

used in doses varying from 30 to 120 grains, 3 or 4 times a day, or one of a number of special preparations. Gwyer says that there are two difficulties in treatment by thymus; the one is to find the proper preparation, the other the proper dosage. He is now using the fresh thymus of calves, dried by himself. He is convinced that the entire gland contains substances which at least retard and limit its action and very likely one or more of its constituents antagonize others which have a curative value. The diseases experimented on were goiter, arteriosclerosis, rheumatoid arthritis, hemorrhoids, cystic tumor of breast, pulmonary tuberculosis and cancer.

### Medical Record, New York

*February 19*

10 *The Thalamic Syndrome. S. E. Jelliffe, New York.
11 Influence of Alcohol in Certain Diseases of the Skin. L. D. Bulkley, New York.
12 *Compensatory Diarrhea. G. M. Niles, Atlanta.
13 Cancerous and Non-Cancerous Pyloric Obstruction. A. Goldman, New York.
14 *Tetanus with Point of Infection the Cavity of a Tooth. W. H. Luckett, New York.
15 Is Congenital Cataract Caused by Dystocia. G. E. Barnes, Herkimer, N. Y.
16 *An Irrigating Stone Searcher. V. C. Pedersen, New York.

10. **The Thalamic Syndrome.**—The symptoms of this syndrome are superficial persistent hemianesthesia of organic nature for sensibility, pain, tact, and temperature; mild hemiplegia without contracture, rapidly regressive; mild hemiataxia and astereognosis; severe pains in the hemiplegic side, paroxysmal, and intolerable; choreoathetoid movements of the members of the paralyzed side. Jelliffe also gives the history and autopsy of the case reported by Déjerine and Egger, on which the syndrome was formulated. The autopsy showed a lesion occupying the posterior external part of the optic thalamus at all its levels. The lateral internal and external nuclei were destroyed in their posterior third. There were secondary degenerations in the posterior part of the posterior segment of the internal capsule.

12. **Compensatory Diarrhea.**—Niles states that there are diarrheas that seem to be salutary in their effects. He calls these compensatory. There are, first, those that are concomitant with deficient or perverse catabolic processes; such occur in gout, diabetes, goiter, Addison's disease, etc.; second, those resulting from functional or structural diseases of certain excretory organs, as in failure of renal functions and extensive burns; third, those occurring in old persons who are failing in strength, the result of physiologic decline. The diarrhea here consists of incompletely catabolized products that need to be excreted. Also certain toxic states with elimination of toxic products by the bowels, such as uremic diarrhea; women past the climacteric seem to need elimination of certain products, which is done by diarrheal discharges. Treatment of such diarrheas should not be directed to stopping the passages.

14. **Tetanus from Infection of Cavity of Tooth.**—Luckett reports a case of tetanus in a child of ten who had very badly decayed teeth, and no other lesion that could allow of the entrance of the tetanus germ. Animal inoculations and culture experiments showed that tetanus germs were present in the tooth cavity.

16. **Irrigating Stone Searcher.**—Pedersen describes a modification of the Posner and Thompson stone searcher that he considers preferable to either of them. The searcher is curved in the same radius as the standard sound; its extreme width is less than in other instruments, and a small stone is easily reached on account of the smallness of the beak.

### Boston Medical and Surgical Journal

*February 17*

17 *Influence of Race on the Infant Mortality of Boston in 1909. R. C. Cabot and E. K. Ritchie, Boston.
18 *Obscure Affections of the Hip-Joint. A. T. Legg, Boston.
19 Symptomatology and Differential Diagnosis of Tuberculosis of the Cecum. C. G. Cumston, Boston.
20 *Simple and Clean Instrument for Vaccination. F. H. Williams, Boston.

17. **Influence of Race on Infant Mortality.**—Cabot and Ritchie found that the Jewish race in Boston far exceeds any other (a) in the number of stillborn babies, and (b) of digestive troubles proving fatal within the first two years of life. The Italians in Boston suffered during 1909 far out of proportion as compared with the other races in the infant mortality from infectious diseases outside the gastrointestinal tract. The great bulk of these deaths were due to pneumonia. On the other hand, the Italian race is more fortunate than any other race in Boston in that it loses a far smaller number of children from congenital weaknesses, prematurity and birth accidents.

The Irish have the best record as regards stillbirths, and lose a remarkably small number of babies from infectious disease. They fare better than the Jews or the Italians as regards practically every one of the causes of infant mortality, though in all these respects, except as regards prematurity, their record is somewhat worse than that of the "Americans."

As might be expected from their longer settlement in this country, the so-called "American" race loses fewer children per thousand births than any other race. This advantage holds good as regards every one of the causes of postnatal infant mortality with the exception of those classified under the term "prematurity." In deaths from this cause, the "American" race has the worst record of all, and in the number of stillbirths the "Americans" are far more afflicted than the Irish and almost equal the Italians, though the Jews fare worse still.

18. **Obscure Lesion of the Hip-Joint.**—The following facts, symptoms and signs were present in each of the five cases reported by Legg: (1) age, 5 to 8 years; (2) history of injury; (3) limp; (4) thickening about the neck of the femur; (5) absence of pain; (6) absence of constitutional symptoms; (7) little or no spasm; (8) absence of shortening. All these patients sought advice solely on account of the limp. In two of the cases (the first and the fourth) the condition of flattening of the head of the femur existed on both sides; and in both cases there was entire absence of symptoms in one of the hips. No opinion as to the nature of these cases is offered.

20. **Instrument for Vaccination.**—The instrument used by Williams consists of a piece of stiff platinum wire, 1 mm. in diameter and 5 cm. long, fused into a piece of glass tubing which serves as a handle. The other end of the wire, flattened by means of a hammer to a width of rather more than 2 mm., has been well rounded with a file and its edge roughened by making shallow cuts in it with a knife blade. This roughening is important, for if not done the instrument bores into the skin and causes unnecessary pain while the outer layer is being removed. To use the instrument, the platinum wire is first sterilized by heating to a red heat in a flame; it cools in a moment, and the end is then pressed gently against the tense skin, which has also been sterilized, and the handle rotated between the thumb and finger of the right hand until the serum appears.

### Lancet-Clinic, Cincinnati

*February 5*

21 Cerebral Decompression. A. Schachner, Louisville.
22 *Surgical Treatment of Exophthalmic Goiter. A. J. Ochsner, Chicago.
23 *Postoperative Results in Exophthalmic Goiters and Tumors. G. W. Crile, Cleveland.
24 *Primary Bilateral Ligation of the Upper Poles of the Thyroid for Exophthalmic Goiter. J. H. Jacobson, Toledo.
25 Pyemic Poisoning Caused by Pus in the antrum. R. J. Forre, Cincinnati.

*February 12*

26 *Gangrene from Syphilitic Endarteritis. A. Ravogli, Cincinnati.
27 Medicolegal Expert Testimony. B. F. Beebe, Cincinnati.

22, 23, 24. Abstracted in THE JOURNAL, Nov. 13, 1909, pp. 1675, 1676.

26. **Gangrene.**—Ravogli emphasizes the fact that when gangrene is produced by syphilitic infection, heroic antisyphilitic treatment has to be resorted to. In several cases through treatment the gangrene has been limited, the necrotic surface has sloughed off, and good cicatrization has followed. Of course, no benefit is to be expected from the treatment of the necrotic tissues, nor any effect whatever on the thrombosed arteries or veins. But when the syphilitic process has acted on the small vessels, then the limitation of the process can be obtained. In all Ravogli's cases tonic treatment, and

especially quinin in large doses, has been found of value to subdue septic condition. Ravogli concludes as follows:

1. Syphilis is liable to induce gangrene at any period of the disease. 2. Gangrene *en masse* occurs more frequently from endarteritis in the late stage of syphilis. 3. Gangrene may be the result of an acute peripheral endoangioitis of the small arteries, causing necrosis of superficial areas of the skin. 4. Gangrene may be the result of the pressure of the infiltrating elements on the blood vessels and on the tissues in the center of deep syphilitic lesions.

### Virginia Medical Semi-Monthly, Richmond

*January 21*

28 *Hematology of Pellagra. C. H. Lavinder, Washington, D. C.
29 Education of the Public on the Cancer Problem. S. Leigh, Norfolk, Va.
30 *Congenital Word Blindness as a Cause of Backwardness in School Children: Case Associated with Stuttering. E. B. McCready, Pittsburg.
31 Treatment of Enlarged Prostate and of Chronic Prostatitis with Electricity. J. C. Walton, Richmond, Va.
32 Medical Antagonisms. F. L. Biscoe, Washington, D. C.

28. Abstracted in The Journal, Nov. 13, 1909, p. 1664.

30. Published in the *Pennsylvania Medical Journal*, January, 1909, and abstracted in this issue of The Journal, article No. 50.

### Archives of Pediatrics, New York

*January*

33 Pneumococcus Infection. W. L. Carr, New York.
34 Meningism: A Consideration of the Syndrome of Dupré. L. Porter, San Francisco.
35 *Protective Action of the Colloids in Milk: Some Ultramicroscopic Observations. J. Alexander and J. G. M. Bullowa, New York.

35. **Colloids in Milk.**—According to Alexander and Bullowa the casein of milk is an irreversible, or coagulating, or unstable colloid, which is protected by lactalbumin, a reversible or stable colloid. In the modification of cows' milk for infant feeding it is necessary not only to consider the percentage of total proteids, fat, etc., present, but to see that the casein is adequately protected. The authors emphasize that the casein exists in cows' milk in an already formed higher degree of colloidal aggregation. Bald chemical analysis, without taking into consideration the principle of colloidal protection, is in their opinion, an insufficient criterion for the actual digestibility or availability of food.

### Kansas City Medical Index-Lancet

*January*

36 Syphilis of the Nervous System. J. Punton, Kansas City.
37 The Emmanuel Movement. E. C. Smith, Kansas City.
38 Deep-Seated Pathologic Conditions of the Neck. F. J. Moenninghoff, Kansas City.
39 Gonorrhea and its Management, Especially in Women. C. B. Hardin, Kansas City.
40 The Advantage of Psychometric Methods in Diagnosis, Prognosis and Treatment of Cerebral Disorders (continued). T. A. Williams, Washington, D. C.

*February*

41 A Famous Case Recalled. J. Punton, Kansas City.
42 Diagnosis and Treatment of Empyema. E. H. Musson, Norborne, Mo.
43 Abdominal Myomectomy for Large Uterine Fibroids. H. P. Kuhn and W. I. Frick, Kansas City.

### Pennsylvania Medical Journal, Athens

*January*

44 Progress in Obstetrics. G. M. Boyd, Philadelphia.
45 *State Appropriations to Hospitals not Under State Control. J. R. Roberts, Philadelphia.
46 *What Other States are Doing in Hospital Support. C. McIntire, Easton.
47 *Advantages of the Pennsylvania System of Hospital Support. H. G. McCormick, Williamsport.
48 *Objections to Pennsylvania Method of Hospital Appropriation. L. F. Flick, Philadelphia.
49 *Suggested Improvements in Hospital Support. W. L. Estes, South Bethlehem.
50 *Congenital Word Blindness as Cause of Backwardness in School Children; A Case Associated with Stuttering. E. B. McCready, Pittsburg.
51 *Surgical Treatment of Diffuse Suppurative Peritonitis. G. D. Nutt, Williamsport.
52 *Relation of the Visual Field to the Investigation of Certain Psychoses and Neuroses. G. E. de Schweinitz, Philadelphia.

45, 46, 47, 48, 49. *Abstracted in* The Journal, Oct. 23, 1909, pp. 1424, 1425.

50. **Congenital Word Blindness.**—McCready holds that although but some 41 cases have been closely observed of this condition, the number represents but a small proportion of the cases. That there is a distinct hereditary influence there can be no doubt. In two of the cases reported development in other directions was slow, while other cases showed evidences of a neurotic tendency. In nearly every case the patient, with the exception of his visual defect, was of average or above average intelligence. In the case reported, the patient, aged 20, family history negative, had enteritis when an infant. At the age of 4 years he had an attack of pneumonia with cerebral symptoms. He had great difficulty in reading from the time he first went to school, and began to stutter from fright at the age of 10. He could recognize letters and numerals, but very few words. The boy is of average intelligence but much retarded on account of defects. The object aimed at after correction of the speech defect was the development of the visual word center in the right hemisphere, and the establishment of functional relationship between it and the auditory word center as well as Broca's center in the left. His improvement has been satisfactory.

51. **Surgical Treatment of Diffuse Suppurative Peritonitis.**—Nutt claims that country surgeons often see many severe cases of diffuse suppurative peritonitis in which it is utterly impossible to select the time of operation or to convey the patients to a hospital, but in which by the use of stomach lavage, drugs that will fortify the heart action and prevent shock, and a small amount of etherization, a quick operation can be done with almost absolute certainty of success. In Nutt's opinion, the whole question resolves itself into the ability of the patient to stand the anesthetic; if equal to it, and if operation can be borne, an immediate operation seems to be the most reasonable plan and to afford the best prospect for the life and future health of the individual. To fortify the patient for a rapid operation, a thorough flushing of the stomach is necessary if there has been suspicious vomiting. Heart stimulants should be given an hour before operation. Oxygen administration during anesthesia is valuable.

52. **Visual Field in Certain Psychoses and Neuroses.**—De Schweinitz holds that there is no form of visual field pathognomonic of neurasthenia, but, other things being equal, a typical fatigue field is important in the symptom complex of this disease. Perimetric examination has a certain value in the differential diagnosis of hysteria and neurasthenia, inasmuch as a typical fatigue field of any variety is more likely to be found in a pure neurasthenia than in hysteria or hystero-neurasthenia. A stable concentrically contracted and tubular field, with inversion of the color lines, is a strong indication of hysteria, but such a visual field is not diagnostic of this psychosis and may be produced by conditions already named. Fatigue phenomena of the visual field are not limited to the periphery, but may appear in its center, and interpret macular exhaustion, and are equally important from a diagnostic standpoint. Certain varieties of central exhaustion scotomas are with difficulty distinguished from other central scotomas, the result of mild or attenuated forms of retrobulbar neuritis. In each instance it is possible that the phenomena depend on an edema of the optic nerve axis near the foramen. Slight forms of macular fatigue, so common in neurasthenic patients, probably explain many of the failures to relieve by glasses the asthenopia which is so prominent a symptom of many of these individuals.

### Illinois Medical Journal, Springfield

*January*

53 Mistakes and Misconceptions in the Modern Treatment of Tuberculosis. J. W. Pettit, Ottawa.
54 Prevention of Tuberculosis. C. J. Whalen, Chicago.
55 Tubercle Bacilli in the Circulating Blood. F. Tice, Chicago.
56 Tuberculin Therapy in Pulmonary Tuberculosis. C. W. Leigh, Chicago.
57 Specific Treatment of Pulmonary Tuberculosis. K. von Ruck and S. von Ruck, Asheville, N. C.
58 Incipient Tuberculosis: Diagnosis and Treatment. C. W. Chapin, Weldon.
59 Tuberculous Peritonitis. R. A. Noble, Bloomington, Ill.
60 Pellagra. C. H. Lavinder, Washington, D. C.
61 Pellagra. W. J. MacNeal, Urbana.

### American Journal of Medical Sciences, Philadelphia

*February*

62 Treatment of Acute Otitic Meningitis. E. B. Dench, New York.
63 *Treatment of Chorea in Children. J. Allan, Edinburgh, Scotland.
64 Therapeutic Use of Passive Hyperemia (Bier). G. P. Müller, Philadelphia.

63 Diagnosis and Surgical [illegible] Inguinal Hernia. W. L. Rodman and C. W. [illegible]
66 Diagnosis of Cancer [illegible] F. Cheney, San Francisco.
67 Routine Examination of the Esophagus. C. M. Cooper, San Francisco.
68 Gastric Secretion. E. A. Aronson.
69 *Local Asphyxia of the Extremities (Raynaud's Disease) a Hitherto Undescribed Complication of Intermittent Achylia Gastrica. G. A. Friedman, New York.
70 Clinical Observations in Heart-Block. W. W. Herrick, New York.
71 *Physiology and Pathology of Creatinin and Creatin. V. C. Myers, New York.
72 *Skin Reaction in Carcinoma from Subcutaneous Injection of Human Red Blood Cells. C. A. Elsberg, H. Neuhof and S. H. Geist, New York.

63. This article will be discussed in the Department of Therapeutics.

69. **Local Asphyxia of the Extremities.**—The patient, a woman, aged 23, was in perfect health until the age of 18, when, soon after an illness with an obstinate form of malaria, she noticed the development of her present malady. Though the condition of all four extremities is better in the summer, yet even then her skin does not functionate so actively as the skin in other people. The pain sense is lost not only in the affected parts, but nearly all over the skin and on the anterior part of the tongue, with diminution of the senses of temperature and touch. While the heart and palpable vessels are normal, the small arteries of the fundus show a marked contraction when the asphyxia of the extremities is most pronounced. There is slight secondary anemia, but the most striking feature is the fact that, without dyspeptic symptoms, there is a lack of free hydrochloric acid and the presence of mucus in the stomach contents on those days when the fingers and toes show the most characteristic picture of local asphyxia; while on the days when the extremities are red no mucus is present and the quantitative examination shows merely hypoacidity.

71. **Creatinin and Creatin.**—The significant physiologic fact to be borne in mind in regard to creatinin, says Myers, is the absolute constancy of its elimination, different for different individuals, but wholly independent of the volume of the urine and the amount of nitrogen excreted. Creatinin is an index of some special process of normal metabolism taking place largely, if not entirely, in the muscles. The intensity of this process appears to be associated with the muscular strength of the individual. In pathologic conditions, the creatinin excretion is usually low. From this point of view, the creatinin output may be looked on, at least to a certain extent, as an index of the physical condition of the patient. The creatinin elimination appears to be especially low in conditions associated with muscular weakness or inefficiency. It is, however, slightly increased in acute fevers and here does not run parallel with the muscular strength. In diseases in which the creatinin output is low, creatin is generally excreted. Creatin is not normally present in the urine, and its excretion may be regarded as pathologic. Furthermore, it is usually found to be associated with a loss of muscle protein, thus indicating that the source of the endogenous urinary creatin is the creatin of muscle tissue.

72. **Skin Reaction in Carcinoma.**—The authors found that the subcutaneous injection of human red blood cells prepared in the manner described is in certain individuals followed by a characteristic and easily recognizable local skin lesion or reaction at the site of the injection. The majority of the patients (89.9 per cent.) in whom this skin reaction was observed were suffering from carcinoma. The majority of the patients (94.3 per cent.) in whom no characteristic skin lesion followed the injection were free from carcinoma.

The blood is obtained in the following manner: Into an ordinary aspirating syringe of from 10 to 15 c.c. capacity a glass bead about the size of a split pea is placed, and the syringe and needle are boiled in normal saline solution. The anterior aspect of the elbow of the individual whose vein is to be aspirated is carefully cleaned with soap and water, alcohol and ether, and a vein made prominent by tying a bandage around the arm. Under proper aseptic precautions the vein is punctured and from 5 to 10 c.c. of blood is aspirated into the cooled syringe. The needle is then removed from the syringe, the end of the latter covered with a piece of sterile gauze, and the syringe shaken for ten minutes.

After the blood has been defibrinated in this manner, about 1 c.c. is expressed into each of a number of sterile test tubes that fit into an ordinary centrifuge, and that have been previously half filled with sterile normal salt solution. The usual bacteriologic technic (passing the ends of the test tubes through the flame, etc.) is employed to keep the contents of the tube sterile. The tubes are then placed in the centrifuge for ten minutes. The clear supernatant fluid is then carefully poured off from each tube under the proper precautions to prevent infection. Fresh sterile salt solution is added, the tubes are gently shaken to mix the blood with the solution, and the tubes are again centrifuged for ten minutes. The same process is repeated a third time. Then, after the supernatant fluid has been poured off, four times as much salt solution as there are cells by volume is added. Thus, approximately, a 20 per cent. suspension of washed red blood cell has been obtained. The tubes are kept in the ice chest for from 24 to 48 hours, and are then ready for use. Any tubes in which there is the slightest amount of laking must not be used. If careful technic has been employed, the red cell suspension will often be free from laking for three or four days.

It is important to select the proper individual from whom the blood is to be obtained. Tuberculosis and syphilis must be excluded, the patient must not only be free from any evidence of disease, but must not have been recently ill, nor have received any injury, must not have even the slightest operation, and must not have recently had an anesthetic. The blood of individuals who have had any of these conditions is unfit for injections. The blood can, however, be taken from a patient during the early stages of ether anesthesia. The authors have found that the most satisfactory blood is that obtained from little children, and in the hospital they have usually obtained it from little patients who were to be operated on for hernia.

A hypodermic syringe which has been boiled in normal saline solution and cooled is filled with the blood mixture. The reaction begins to show in about five hours after the injection; it gradually increases in intensity until it has reached its height in from six to eight hours. When fully developed, the reaction appears as a somewhat irregular oval area with a well-defined margin measuring from 1x2 to 3x5 cm. The margin is often surrounded by whitish areola. The color of the lesion varies from a brownish red to a maroon, with, rarely, a bluish tinge. The lesion is distinctly raised from the surrounding skin surface. The raised area has a slightly boggy feeling, as if there were a subcutaneous exudation, and it is often somewhat tender. When the lesion has disappeared there remains behind a flat, yellowish or greenish discoloration such as is left by any small ecchymosis. In those cases in which the characteristic lesion does not appear the skin either presents no change except the needle puncture, or a small flat area of varying color; rarely, the skin is raised, but of normal color. Up to the present time the authors have given 684 injections to 432 patients.

## Journal of the Kansas Medical Society, Kansas City

*January*

73 Three Cases [illegible] Salient Features of the Disease. F. A. [illegible]
74 Suggestio[illegible] [illegible]eavenworth.
75 Placenta [illegible] J. D. Walthall, Paola.

## Journal of the Missouri State Medical Association, St. Louis

*January*

76 Solidified Carbon Dioxid as a Topical Agent. J. Grindon. St. Louis.
77 Obesity. W. K. Statler, Oak Ridge.
78 Series of Appendix Cases. L. A. Todd, St. Joseph.
79 Extirpation of the Lachrymal Sac. C. Barck, St. Louis.
80 Scientific Employment of Drugs. W. R. Patterson, Tipton.
81 Surgical Dyspepsia. F. J. Moennighoff, Kansas City.

*February*

82 *Radical Cure of Hernia as seen by the Country Surgeon. C. H. Suddarth, Smithville.
83 Surgical Treatment of Amebic Dysentery by Appendicostomy. R. J. Bunch, St. Louis.
84 Practical Points in Abdominal Surgery. C. C. Morris, St. Louis.
85 Modern Surgery of the Rectum. J. S. Wallace, Brunswick.
86 Case of Ruptured Bladder. F. J. Tainter, St. Charles.
87 Progress in Medicine and Surgery. C. O. Dewey, Breckenridge.
88 *Malarial Infection in Children. S. P. Child, Kansas City.
89 Ocular Examination as an Aid to Prognosis in Suppurative Otitis Media. W. E. Klokke, St. Louis.

82. **Radical Cure of Hernias.**—Suddarth performs the Bassini operation but uses a No. 3 twenty-day catgut for suture material.

88. **Malarial Infection in Children.**—Child reports five cases of malaria; a pure tertian, three estivoautumnal and one mixed infection of tertian and estivoautumnal. The estivoautumnal cases were chronic in form and revealed in one or more instances a blood picture of true pernicious malaria.

### Montreal Medical Journal

*January*

90 So-called Doubling of the Puncta Lacrimalia. F. T. Tooke, Montreal.
91 Impressions of the Sixteenth International Medical Congress at Budapest. R. H. Craig, Montreal.
92 Rabies in Canada. C. H. Higgins, Ottawa.
93 Action of Some Remedies on the Heart in Disease. V. W. Henderson, Toronto.
94 Retrospect of Some Ophthalmic Bacteriology. S. H. McKee, Montreal.
95 Tumor of the Vermis Inferior Cerebelli. C. K. Russel, Montreal.

### Annals of Otology, Rhinology and Laryngology, St. Louis

*December*

96 Topographic Anatomy of the Thyroid. P. Potter, Butte, Mont.
97 *X*-Ray Examination of the Mastoid Region. S. Iglauer, Cincinnati.
98 Physiology and Development of the Nose and Accessory Sinuses and Nasal Reflexes; Especially the Function and Importance of the Turbinated Bodies. H. J. Hartz, Detroit.
99 Present Status of the Tonsil Operation; Collective Investigation. G. L. Richards, Fall River, Mass.
100 Cavernous Sinus Thrombosis. L. A. Coffin, New York.
101 Nasal Sarcoma Submitted as a Corollary to a Former Paper on the Same Subject. J. Price-Brown, Toronto.
102 Purulent Otitis Media of Infancy and Childhood. H. O. Reik, Baltimore.
103 Treatment of Otosclerosis. W. S. Bryant, New York.
104 Chronic Purulent Otitis Media in Adults. S. M. Smith, Philadelphia.
105 Spoon Enucleation of the Tonsil. A. M. MacWhinnie, Seattle, Wash.
106 Chronic Epipharyngeal Periadenitis in Adults. J. E. Logan, Kansas City.
107 Incision for Submucous Resection. S. Yankauer, New York.
108 Amputation of Epiglottis in Laryngeal Tuberculosis. L. B. Lockard, Denver.
109 New Method for Inflating Eustachian Tube and Middle Ear. E. P. Fowler, New York.
110 Simple Acumetric Formula Adopted by Eighth International Otologic Congress at Budapest, 1909. J. Möller, Copenhagen, Denmark.
111 New Plastic Mastoid Operation for Acute Mastoiditis. F. T. Hopkins, New York.
112 Primary Carcinoma of the Trachea. T. P. Berens, New York.

### Monthly Cyclopedia and Medical Bulletin, Philadelphia

*January*

113 Rational Treatment of Hypertension and Sclerosis of the Arterial System. C. Pope, Philadelphia.
114 Facial Spasm and Tic: Torticollis and Treatment. T. A. Williams, Washington, D. C.
115 Hernia: Etiology and Relation to the Earning Capacity of the Individual. A. C. Wood, Philadelphia.
116 Tabes Dorsalis. J. V. Shoemaker, Philadelphia.
117 Ophthalmia Neonatorum. L. W. Fox, Philadelphia.
118 Treatment of Pneumonia. C. S. Ashfield, South Norwood, O.
119 Differential Diagnosis of Retention of Urine and Anuria, and their Relation and Significance to General Medicine. W. Karo, Berlin, Ger.
120 Treatment of Syphilis. H. M. Christian, Philadelphia.

### Alabama Medical Journal, Birmingham

*January*

121 Relations Between Systemic and Ocular Lesions. H. Woods, Baltimore.
122 Complete Extirpation of Colon. E. M. Prince, Birmingham.
123 *Dressing for Burns. G. A. Hogan, Birmingham.
124 The Jefferson County Medical Society. J. D. Heacock, Birmingham.
125 *X*-Ray in Treatment of Cancer. J. H. Edmondson, Birmingham.

123. **Dressing for Burns.**—The burnt area being sponged off with sterile normal salt solution, Hogan applies perforated oiled silk directly to this area. On this he puts sterile gauze, cotton, and a bandage. The perforations allow drainage and at subsequent dressings the gauze is removed, also that part of the perforated oiled silk which does not adhere to the burn. This oiled silk which has been removed may be used after being cleansed in normal solt solution and applied as before. Some of the advantages claimed for this dressing are:

1. It is rarely necessary to give opiates.
2. There is very little pain in applying or changing this dressing.
3. These perforations afford better drainage than can be obtained from the use of other dressings.
4. There is a minimum amount of danger of infection, for by using this dressing there is practically an absence of traumatism in changing the dressing and the drainage is better.
5. The oiled silk seems to act as a skin graft and healing is more rapid.

### Memphis Medical Monthly

*January*

126 What Class of Tuberculosis Patients Shall We Send West? J. W. Laws, Lincoln, N. M.
127 The Importance of Pain. F. C. Spaulding, Crawford, Miss.
128 Intestinal Obstruction. W. S. Anderson, Memphis.
129 Home Treatment of Tuberculosis. H. E. Griffin, Coffeeville, Miss.

### Western Medical Review, Omaha

*January*

133 Uterine Cancer. W. O. Henry, Omaha.
134 Early Diagnosis of Gall-Stones. J. E. Summers, Omaha.
135 *Mental Aberration Following Mastoid Operations. H. Gifford, Omaha.
136 Poisoning by Bismuth Subnitrate in the Use of Bismuth Paste. A. B. Anderson, Pawnee City, Neb.
137 Dystocia from Inertia. A. B. Somers, Omaha.

135. **Mental Aberration Following Mastoid Operation.**—The first patient was a woman of 65, with a double mastoiditis following acute otitis media during attack of grippe. Both mastoids were opened, and considerable pus was evacuated from each. The patient made an ordinarily rapid recovery without any unusual objective symptoms, but following the operation she seemed to be in a somewhat dazed condition, and at the end of two weeks, when her mind seemed to be entirely normal again, it was found that the entire period from the day preceding the operation to the end of the two weeks was a perfect blank so far as she was concerned. She had absolutely no recollection of the operation, nor of the preparations for it, nor of anything that had occurred in the meantime. In other respects there was nothing unusual about the case; her mind became entirely normal and she made a good recovery. The second patient, a man, within 24 hours after the operation showed decided signs of mental aberration and became unruly and very talkative; and in the course of the next day or two became a furious maniac: so entirely unmanageable that he had to be put in a straight jacket and confined to a cage bed in which he could thrash about without injuring any members of the hospital staff. By rubbing his head about he made any attempt at dressing the wound entirely useless, but nevertheless it progressed beautifully, and his ear gave him no further trouble. His mental condition, however, showed so little signs of improvement that he was removed to the state asylum, where at the end of about two months after the operation, he recovered entirely. He returned to his business and had no further relapse, either mentally or aurally. The third patient, a woman, presented plain symptoms of mastoid abscess and Gifford performed a radical operation, removing much pus and old cholesteatomatous masses from the antrum and adjoining cells. One week after the operation, she became semicomatose, with a slow pulse and nearly normal temperature. The symptoms of brain abscess were so marked that Gifford at once removed the roof of the antrum and of the tympanic cavity and exposed the dura for a space one inch by one-half inch in extent. An incision into the brain immediately above the tympanic cavity gave no result, then an incision up and slightly back one inch posterior to the auditory canal opened a brain abscess from which about three drams of pus was evacuated. A glass drainage tube was inserted into the cavity and the rest of the wound dressed with iodoform gauze. The woman improved rapidly and so that as far as the ear and brain wounds were concerned the cure was complete, although she developed an apparently permanent paralysis of the right third nerve; but her mind never became perfectly clear and gradually symptoms of profound melancholia with delusions developed, which have persisted up to the present time, that is, for nearly a year after the operation.

### Journal Arkansas Medical Society, Little Rock

*January*

138 Extrauterine Pregnancy. W. V. Laws and W. Chestnut, *Hot Springs.*
139 Extrauterine Pregnancy. G. E. Cannon, Magnolia.
140 [illegible]ancy. W. F. Smith, Clarksville.
141 [illegible] During Labor. G. W. Murphy, Strong.
142 [illegible] H. C. Dunavant, Osceola.

### Laryngoscope, St. Louis

*January*

143 *Head Nystagmus. E. Urbantschitsch, Vienna.
144 Social, Hygienic and Economic Aspect of the Ear. C. J. Blake, Boston.
145 Social, Hygienic and Economic Aspect of the Nose. J. J. Kyle, Indianapolis.

146 Sociologic, Hygienic and Economic Aspect of the Throat. W. A. Wells, Washington, D. C.
147 Subjective and Objective Sense of Sound Perception. D. B. Kyle, Philadelphia.
148 Endocranial Complications of Nasal Origin. W. Freudenthal, New York.
149 Method of Opening the Mastoid Antrum Through the External Auditory Meatus as the First Step in the Mastoid Operation. S. Iglauer, Cincinnati.
150 Double Mastoiditis Showing Symptoms of Intracranial Involvement—Recovery Without Opening Cranial Cavity. L. Emerson, Orange, N. J.
151 Exhibition of Specimen of Sequestrum of Entire Petrosa. T. P. Berens, New York.
152 *New Method of Packing the Nostril, Designed to Prevent Postoperative Hemorrhage and a New Quadrivalve Self-Retaining Nasal Speculum. W. E. Casselberry, Chicago.
153 Simple Air-Compressing Apparatus. F. W. Dean, Council Bluffs, Ia.
154 Improved Tonsil Tractors. G. C. Hall, Louisville.

143. **Head Nystagmus.**—In Urbantschitsch's experiments a free sweat of the head and more frequently over the entire body occurred with conspicuous frequency when labyrinth stimuli were produced (with eyes bandaged). In some cases trembling of the lower extremities (knees) occurred; in others, tremor or slight swaying of the head was noticed. This tremor was in some cases continued for some time; in others it occurred only periodically (for a shorter time). No regularity in the appearance of these symptoms in the several patients could be found not even in the same patient, when these tests were repeated on different days. It even seemed that the first experiments yielded more definite results than subsequent ones. It is not unlikely that the patient may become accustomed to such stimuli, so that the slightly changed muscle tonus later may be unconsciously compensated by repetition.

Hyperhidrosis was the most regularly recurring symptom observed in these experiments. Urbantschitsch was unable to determine what bearing this might have on labyrinth tonus. A reflex irritation of the sweat secreting center cannot be excluded. He inclines to the opinion, however, that it is due to a stimulus of the sympathetic nerve by way of the spino-vestibular route. His experiments would indicate at least, that it is possible to establish by means of certain methods corroborative evidence of the spino-vestibular route.

152. **New Method of Packing Nostril.**—The tampon which Casselberry has used satisfactorily for three years is composed of a rubber finger cot or, preferably of what might be called a club-finger cot which, after insertion into the nostril, is filled by means of an ordinary tubular gauze packer with a strip of sterile gauze, 1¼ inches in width, by a yard or more in length. The finger cot and packer having been sterilized by boiling, the packer, ready armed with gauze, is used first as a stem on which the rubber case, lubricated and held for the moment lengthwise on the stretch, is carried into place, extending from front to back in the nostril with the closed bulbous end just overlapping the choana into the nasopharynx. Both the packer and cot are then in position to pass the gauze which at the start should be packed with special firmness in order to form the posterior plug by an over-distention of the expanded end of the finger cot where the rubber is reinforced to withstand the strain. The club-finger cot, with its bulbous closed extremity and proximal slight constriction of its caliber, is especially suitable for forming such a plug in and behind the posterior naris, although an ordinary finger cot of large size or one cut from a surgeon's rubber glove, can be made to serve the purpose, almost, but not quite as well, by extra firmness, albeit gentleness, in packing the rear end.

Not only does the incasing of the gauze in rubber render the tampon comparatively free from the pushing and pulling requirements of uncovered gauze during its insertion and withdrawal, but its smooth surface permits of a ready detachment from the wound as soon as its purpose is fulfilled, usually by the end of eighteen hours, instead of forty-eight, when by first withdrawing the gauze from the rubber the flaccid case will slip from the nostril.

### American Medicine, New York

*January*

155 Untoward Effects of Thyroid Medication and How to Forego Them. H. Stern, New York City.
156 Method for the Instruction of the Public Along Medical Lines. H. S. Baketel, New York.
157 The Future American. C. W. Woodruff, U. S. Army.
158 *Iodin in Sterilization of the Skin. I. S. Stone, Washington, D. C.
159 Campaign of the German Hospital of New York City Against Pulmonary Tuberculosis. S. Breitenfeld, New York.
160 Need of Sedative Treatment in Ophthalmic Surgery. J. H. Ohly, Brooklyn.
161 The Urticaria of Infancy. U. J. Wile, New York.
162 Ionization and Oxidation. J. P. Dickson, Franklin, Ia.

158. Abstracted in THE JOURNAL, Jan. 15, 1910, p. 234.

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## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

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### British Medical Journal, London

*February 5*

1 *Constrictions and Occlusions of the Alimentary Tract of Congenital or Obscure Origin. A. Keith.
2 Some Aspects of Poliomyelitis. Sir W. R. Gowers.
3 *Heredity and Disease. E. LeC. Lancaster.
4 Use of the Cystoscope, the Urine Separator, and the Ureteral Catheter. E. Deanesly.
5 Treatment of Fractured Limbs in Workmen. A. P. Gibbons.
6 Futility of the Official Tests for Color Blindness. T. H. Butler.
7 *An Interesting Case of Congenital Cataract. C. Killick.
8 Aneurism in a Woman. H. G. Frean.
9 Severe Antepartum Hemorrhage Due to Spontaneous Rupture of Vaginal Varix. C. E. Purslow and G. J. Branson.

1. **Constrictions of Alimentary Tract.**—The following list of specimens showing constrictions and occlusions of the alimentary tract of congenital or obscure origin in the medical museums of London is the basis of Keith's paper:

1. Non-cicatricial stenosis of the upper esophageal orifice, 9 cases.
2. Stenosis of the lower esophageal orifice, with dilatation of the esophagus, 6 cases.
3. Congenital stenosis of the mid-esophagus, 2 cases.
4. Malformation of the tracheoesophageal septum, 14 cases.
5. Hour-glass constriction of the stomach, 14 cases.
6. Hypertrophic stenosis of the pylorus, 14 cases.
7. Congenital occlusions of the duodenum, 7 cases.
8. Congenital occlusions and constrictions of the jejunum and ileum (not including those associated with Meckel's diverticulum), 15 cases.
9. Congenital occlusion at the ileocecal junction, 1 case.
10. Congenital occlusion of the colon, 4 cases.

3. **Heredity and Disease.**—The study of heredity is regarded by Lancaster as being at the same time depressing and encouraging. It is depressing because there is no getting away from the fact that there does exist some actual physical protoplasmic basis through which disease or the tendency to disease is handed down from germ cell to germ cell—even if we do not admit the whole Weismannian conception of chromosome, *i. e.*, determinant and biophor—and that no amount of care or education, no change in environment, no choice of function can, so far as we know, alter by one jot or one tittle the constitution of the germ plasm that each of us has received from parents and may transmit to offspring. It is encouraging because more and more it becomes clear that whatever of abnormal is contained within the inheritance it is not disease so much as predisposition to disease, and that each item of an inheritance requires suitable environment in which to appear, and suitable functioning for the encouragement of its growth. The deliberate improvement of the health of the race by restriction of the mating of those whose inheritance is physically or morally bad, except in extreme and obvious cases, is, in Lancaster's opinion, an idealistic dream for a future that may never arrive; the world gets more, not less, sentimental as it grows older. For the present, efforts toward raising the general health of the race should be directed toward improving the environment and providing for proper functioning.

7. **Congenital Cataract.**—Killick's patient, a woman, aged 36, was born blind. Several operations were performed, but apparently the only benefit which the patient received consisted in the fact that she was thenceforth able to distinguish between certain colors, especially if bright; for example, in certain lights she could make out that grass was green, and could also tell when she was wearing a red dress. Examination of the eyes by Killick showed that they were habitually directed downward, exhibited slow lateral nystagmus, and were so covered by the upper lids that only from one-half to two-thirds of the cornea was left exposed. The left eye was hopelessly disorganized, totally blind, and in an advanced

condition of phthisis bulbi. The right eye, on the other hand, though appearing somewhat sunken and smaller than *normal*, the cornea only measuring about a centimeter in diameter, was much more hopeful in appearance. The cornea was transparent except at one spot near the outer margin, where the scar of a needle puncture was visible; the anterior chamber was of average depth, and the iris appeared healthy, but was drawn upward as a result of some previous operation, but not a trace of a pupil could be seen. The tension of the eyeball was T — ?. Vision amounted to perception of light, but Killick found on trying the projection of light test in the dark room that the retina was perfectly sensitive and functional throughout the entire extent. An iridotomy was done, and two days after this operation the patient could see to get about.

### Lancet, London

*February 5*

10 Electrotherapeutics in Gynecology. S. Sloan.
11 *Points in Diagnosis and Treatment of Certain Nervous Affections. J. Taylor.
12 Ankylostomiasis a Menace to the Industrial Life of Non-tropical Countries. Sir T. Oliver.
13 *Simple and Efficient Operation for Hemorrhoids. N. Porritt.
14 External Examination of Alimentary Canal. L. Mac-Auliffe.
15 Enterectomy for Intussusception under Spinal Anesthesia in An Infant Seven Months Old: Recovery. H. A. T. Fairbank and W. Vickers.
16 Clinical Apparatus for Obtaining Graphic Records of Blood Pressure. C. Singer.
17 Fatal Cerebral Hemorrhage Following Gastrojejunostomy for Pyloric Obstruction. C. H. Whiteford.
18 The Circulatory System (continued). H. Campbell.

11. **Treatment of Certain Nervous Affections.**—Speaking of epilepsy, Taylor says that bromid is, of course, the most useful drug we have for this disease. For a case of epilepsy in which the attacks occur indifferently at any time during the 24 hours it is best to give it in good doses—from 15 to 25 grains—three times daily. In many cases, however, the fit occurs only during sleep, and in these it is best to give a fairly large dose of bromid—from 30 to 40 grains—at bed time. In such cases it is well to combine with the bromid a small dose of digitalis. In all cases in which Taylor gives bromid he also gives nux vomica. If this rule is followed, he says, one will not see the condition of profound depression which occurs when bromid of potassium alone is used. The nux vomica does not interfere with the effect of the bromid in controlling the fits.

There is a class of cases in which the fits tend to occur nearly always in the early morning—very often while the patient is dressing—and these are most efficaciously treated by advising the individual to have an early cup of tea or milk, followed by a dose of a bromid mixture, half an hour before getting out of bed. This simple expedient is often successful in getting rid of troublesome fits. Should it happen only to move them to some other part of the 24 hours they must be pursued to their new time and similarly treated.

In many cases, especially long-standing cases in which the patients have been treated with bromids, the addition of borax is sometimes followed by gratifying results. Belladonna also is useful, sometimes alone, sometimes with bromid, especially in cases of *petit mal*, which, unfortunately, are in Taylor's experience less tractable than the severer cases.

Of bromid salts, he nearly always uses either the sodium or strontium salt—practically never the potassium, which has no advantages over the others, is much more depressing, and certainly tends to the production of acne. Bromid of strontium has the advantage that it has little tendency—in most patients none—to produce acne. Bromid of zinc can only be used in small doses, as it is emetic in larger ones, but it seems to be useful in some cases of *petit mal.*

13. **Operation for Hemorrhoids.**—In the method employed by Porritt, the sphincter having been stretched, one of the hemorrhoidal masses is seized with vulsellum forceps and pulled well out of the anus. It is encircled with a loose purse-string suture of fine Pagenstecher thread. Above, the purse-string suture entered the healthy rectal mucous membrane beyond the hemorrhoids; below, it took up that just within the anus; while at each side it was inserted far enough apart to allow the blades of the crushing instrument to grasp the base or pedicle of the pile seized. It is essential that the tumor be pulled well down. As soon as the purse-string suture is placed the base of the pile is crushed. When the clamp is released, a broad flat layer of crushed tissue connects the pile with the rectum. The pedicle is now folded once on itself by giving a half turn to the pile, the clamp is reapplied, and crushing repeated. When the clamp is removed something like a pedicle has been made, but another half-turn, followed by another crushing leaves nothing more than a fine pedicle of crushed tissue. This is tied with a fine ligature beyond the clamp and the clamp is finally removed. The pile is then snipped away through the crushed pedicle. The stump of crushed tissue with the ligature on it is then buried by drawing tight and tying the purse-string suture already inserted. Other portions of the mass are isolated and removed in the same way.

### Medical Press and Circular, London

*February 2*

19 Treatment of High Blood-Pressure. G. Oliver.
20 Indications for Gastroenterostomy. T. Carwardine.
21 Appendicitis, with Complications. R. A. Stoney.
22 *Total Anesthesia by Injection of Cocain into the Veins. C. Ritter.

22. **Anesthesia by Injection of Cocain into Veins.**—By injecting cocain into a vein Ritter has succeeded in producing complete anesthesia. He made the experiments on dogs injected with cocain into the superficial veins of the leg, while the animal was standing, or he had the animal bound to the table and made the injection into the crural vein. Even during the injection the animal was remarkably quiet. This showed itself most plainly when the dog was not tied, but held by an attendant. Even dogs that were very much excited, and at other times have attempted to spring from the table, did not as a rule require to be kept fixed. If they were bound and lying down the flaccidity of the muscles was characteristic. Sometimes the animal passed urine. Those that howled and whined before lay quite still. At the same time, however, they remain wakeful. They followed the operator with the eye and moved the head from side to side. The eyes were open and reacted to the slightest stimulus. The pupils were dilated. All movements were restrained. The respirations were calm, equable, mostly slightly accelerated. Sensation of pain disappeared in from three to five minutes. Respiration went on quietly. Wounds and ligature of vessels and nerves were painless.

The time the anesthesia lasts is varied, sometimes only fifteen minutes, usually half an hour or more. After this the animal's normal sensations return. Not one of the animals on which Ritter investigated died, and he noticed disagreeable by-effects in only a few. This happened usually with strong doses and small dogs. One dog reacted in this way every time, even with small doses. He became restless, threw his head about quicker and quicker. If he was loosed and set on his feet, he ran about with marvelous quickness, either to the left or to the right, and again toward the left in a circle. This often lasted fifteen minutes. Within from thirty minutes to an hour after the injection, he became quiet again. Real convulsions Ritter never saw.

### Clinical Journal, London

*February 2*

23 *Diseases Simulating Cystitis in the Female. H. Fenwick.
24 Common Errors in Infant Feeding. E. Pritchard.
25 The "Cure" at Contrexéville (Vosges). J. H. Barnard.

23. **Disease Simulating Cystitis in the Female.**—The three diseases of the upper urinary tract in the female discussed by Fenwick which simulate cystitis and in which vesical irrigation is not only painful, but worse than useless, are: (1) *Bacillus coli communis* infection of the kidney (hematogenous); (2) tuberculosis of the kidney (hematogenous); (3) ureteritis due to uterine "sag." Each condition is discussed in detail and illustrative cases are cited.

### Indian Medical Gazette, Calcutta

*January*

26 Minor Medical Services. D. G. Crawford.
27 Smith's Operation of Extraction of the Cataractous Lens in its Capsule. G. T. Birdwood.
28 Treatment of Stricture of the Urethra. J. R. Roberts.
29 Extraordinary Series of Outbreaks of Plague in Cape Colony. E. N. Thornton.
30 Operation for Varicose Veins as Performed in America. C. Duer.

### British Journal of Children's Diseases, London

*January*

31 Modern Methods of Infant Feeding. N. P. Marsh.
32 *Neurofibromatosis of the Tongue in a Child, With the Classification of Incomplete and Anomalous Cases of V. Recklinghausen's Disease. F. P. Weber.
33 Carious Teeth in Elementary School Children. F. E. Larkins.

32. **Neurofibromatosis of the Tongue.**—The patient, a rather delicate-looking boy, aged 6 years, had a hard swelling below the tongue, which, according to the mother, had been almost certainly observed when the child was ten months old. The tumor in question formed an oval projection (about 5 and 10 mm. in breadth and length respectively) on the under surface of the tongue, situated along the right side of, and parallel to, the frænum linguæ, about half way between the tip of the tongue and the orifices of Wharton's ducts. The surface of the projecting tumor, which was apparently covered by healthy mucous membrane, was partly whitish and partly reddish in color. No evidence of disease in the thoracic or abdominal viscera could be detected, and the general health of the boy appeared satisfactory in spite of his somewhat delicate appearance. The projecting portion of the tumor was removed, and on examination showed bundles of medullated nerve fibers bound together by a close connective-tissue stroma. Weber regards the tumor as being neurofibromatous, and a hard cord still remains to the right of the boy's frænum linguæ, doubtless representing part of the lingual branch of the fifth cranial nerve.

### Journal of Laryngology, Rhinology and Otology, London

*January*

34 Latent Infections of the Diphtheria Bacillus. P. W. Williams.

### Glasgow Medical Journal

*February*

35 *Three Specimens Illustrative of Gangrenous Hernia. H. Rutherfurd.
36 *Natural and Unnatural Feeding of the Infant. L. Findlay.
37 Puerperal Eclampsia. D. D. Logan.

35. **Gangrenous Hernia.**—Rutherford reports the following cases: (1) Richter's right femoral hernia in a single woman, aged 30; (2) right inguinal hernia in a man, aged 44; (3) right obturator hernia in a woman, aged 59.

36. **Feeding of the Infant.**—Findlay shows that we do not as yet fully understand the secret of the beneficial effect of human milk, except that it contains some essential and probably organic substance, of the nature of which, however, we are entirely ignorant, nor can we explain why some children on artificial nourishment do well and others do not. At any rate, he says, we do know enough to see how erroneous it is to speak of humanizing cow's milk, and of this or that milk mixture or food being a proper substitute for the natural food of the infant. It behooves us, therefore, to insist on breast feeding in every instance, and to take all the means that lie within our power to encourage and enable the mother to perform this natural and most necessary duty.

### Presse Médicale, Paris

*January 22, XVIII, No. 7, pp. 49-56*

38 Syndrome of Insufficiency of Left Ventricle. (Syndrome d'insuffisance ventriculaire gauche.) C. Lian.
39 Acute and Chronic Serous Anemia. M. Perrin.

*January 26, No. 8, pp. 57-64*

40 Acute Inflammation of the Cerebral Ependyma in a Four-Months-Old Infant. (Ependymite cérébrale aigue chez l'enfant.) P. Merle and R. J. Weissenbach.

*January 29, No. 9, pp. 65-80*

41 Administration of Sodium Nucleinate to Induce Therapeutic Hyperleucocytosis in Mental Disease. (Le nucléinate de soude et la leucothérapie en thérapeutique mentale.) J. Lépine.
42 Active and Passive Exercises for the Elbow. (Gymnastique du coude.) P. Desfosses and L. Durey.
43 *Promotion of Diuresis to Eliminate Anesthetic, etc. (Sur les injections de solutions isotoniques de chlorure de calcium ou de serums fortement calciques, de solutions isotoniques ou hypertoniques de sucres et sur l'ingestion ou les lavements d'eau abondants, avant et après l'anesthésie chirurgicale.) G. Fleig.

43. **Promotion of Diuresis to Eliminate Anesthetic.**—Fleig emphasizes the importance of promoting elimination of the anesthetic by ensuring ample diuresis, and also of counteracting hemorrhage by rendering the blood more readily coagulable. He reports research which demonstrates that the heart action can be reenforced, the blood pressure increased and coagulation promoted by preventive injection before the operation of an isotonic solution of calcium chlorid or artificial serum containing lime, with or without admixture of blood serum. He shows also that elimination of the anesthetic is promoted and the period of its contact with the tissues shortened by subcutaneous, intramuscular or intravenous injections of a solution of glucose or levulose. Copious diuresis is induced by these injections, which wash out the anesthetic and attenuate its secondary toxic effects while they have, besides, a tonic action on the cardiovascular system, combating reduction of blood pressure and collapse. The sugar solution has also a certain nourishing action. The sugar and calcium chlorid may both be combined in a single solution. He urges the more general adoption of such measures, especially with chloroform anesthesia, and when there is reason to dread an injurious action on the heart. He warns, however, that the calcium chlorid or blood serum should never be used in cases in which there is the slightest ground for fearing embolism from thrombosis. With the sugar solutions, when the aim is merely lavage of the blood, without desire to draw fluid from the tissues, an isotonic or paraisotonic solution should be used. This rinses out the blood. But when the aim is to wash out the tissues, in urgent cases requiring prompt diuresis and dehydration of the tissues, a hypertonic solution should be given the preference. Animals seem to wake in much less time after chloroform anesthesia followed by injection of a 25 per cent. solution of glucose. In one dog diuresis became copious in ten minutes after injection of 440 c.c., and continued thus for 20 minutes, after which the dog roused, while the same animal three weeks before did not rouse for an hour and a half after administration of the same amount of chloroform. Jeanbrau has reported the cure of anuria from calculi in 2 cases by intravenous injection of a hypertonic solution of saccharose. Fleig found that normal individuals and patients with oliguria or anuria in acute infectious diseases, especially typhoid, responded with extremely copious diuresis to intravenous injection of a hypertonic 25 or 30 per cent. solution of lactose, glucose or mannite, in doses ranging up 1,100 c.c. in the 24 hours. Sometimes 4 liters of fluid were voided in the following 24 hours and there was no consecutive oliguria when the patients drank freely after the abundant diuresis. He states that the injections can be repeated, preferably on alternate days, without fear of the slightest toxic phenomena. The antitoxic action of the sugar solution is proportional to its lesser molecular weight, that is, proportional to its diuretic action, this being in inverse ratio to the molecular weight. Hypertonic sugar solutions ingested by the mouth do not seem to have the slightest diuretic action, and diuresis is less with isotonic solutions ingested by the mouth than when pure water is taken. The greatest diuretic effect is obtained, he declares, by drinking large amounts of water supplemented by intravenous injection of a hypertonic sugar solution.

### Archiv für Gynaekologie, Berlin

*XC, No. 1, pp. 1-212. Last indexed Feb. 5, p. 500*

44 * [illegible] Delivery; Hysterotomy. [illegible] ihr Einfluss auf die [illegible] unter der Geburt und ihre Behandlung, insbes. mit der vaginalen Hysterotomie.) L. Seitz.
45 *Tuberculosis of the Placenta. H. Schlimpert.
46 *Closure of the Blood Vessels after Delivery. (Gefässverschluss post partum.) O. Frankl and L. Stolper.
47 *Importance of Momburg's Belt Tourniquet in Obstetrics. (Bedeutung der Momburg'schen Blutleere in der Geburtshülfe.) F. Engelmann.
48 Corpus Luteum Abscesses. E. Kehrer.
49 *Experimental Research on the Nervous Reflexes from Various Organs and the Peripheral Nerves Acting on the Uterus. Id.

44. **Reduction of Infant Mortality at Birth.**—This is a more elaborate presentation of data summarized in THE JOURNAL, page 750. Seitz' statistics show that of the 50,000 infants who die during birth in Germany each year, obstruction by the soft parts is responsible for the deaths in 16,000 cases; 10,000 are macerated and 3,000 not viable out of the total 63,000 infants born dead. For two-thirds of the fatalities with the viable children, however, obstruction by the soft parts is responsible, and he makes an urgent plea for prompt vaginal hysterotomy, incising also the vagina if necessary. He has thus treated 70 patients, and the outcome, he asserts, left nothing to be desired. Vaginal hysterotomy, he declares, is a harmless and efficient operation, and he considers it another argument in favor of institutional rather than home deliveries.

45. **Signs of Tuberculosis in the Placenta.**—Schlimpert reports positive histologic findings in the placenta *in 6 out of* 7 cases, the tuberculous mothers living at the time of the childbirth, and also 4 other cases in which the tuberculous pregnant women died undelivered. The children in all the cases died soon after birth, but no macroscopic signs of tuberculosis could be detected in them. Tubercle bacilli were found in the smears from the placenta in only 2 instances.

46. **Closure of the Vessels Postpartum.**—Frankl discusses the remarkable way in which the bleeding stops spontaneously after normal childbirth, although the vessels are widely gaping and even their spontaneous contraction, supplemented by the contractions of the uterine musculature, is not enough to explain this arrest of bleeding from them. Nothing analogous is observed in any other organ, and he ascribes it to a development of decidual elements in the vessel walls, which he found constantly after the fourth month of the pregnancy in 19 uteri examined for the purpose. These cells project into the lumen and close it like a valve when spontaneous retraction occurs after delivery. The article is illustrated.

47. **The Momburg Belt Tourniquet in Obstetrics.**—Engelmann gives the details of a case in which a primipara of 38 with placenta prævia and hydramnios had lost so much blood that the application of the Momburg belt was not followed as usual by contraction of the uterus, which had been so distended that the atrophied walls no longer responded to any stimulus. The belt arrested the hemorrhage, but whenever it was removed the patient collapsed. Notwithstanding pressure from the breech of the fetus, the hemorrhage continued behind it. The outcome would have been better probably if the belt had been applied earlier. Autopsy disclosed no evidences of injury from the belt, although it had been applied for about an hour and three-quarters in all, with several brief intermissions. The method certainly answers the purpose, he says, of arresting obstetric hemorrhage in every case, at least for the time being.

49. **Experimental Research on Reflex Movements of the Uterus.**—The research was done on cats and rabbits mostly after the cerebrum had been excluded by severing the pons from the nervous system below. This transforms the animal into a reflex machine, responding to the most delicate stimuli. The movements of the uterus were recorded on a rotating drum, the animals being under ether and artificial respiration. A reflex action on the uterus was evident on stimulation of any of the sensory nerves of the body, not only the spinal nerves, but also the sensory fibers of the sympathetic. It was noticeable, however, that the reflex movements induced by irritation of the skin, mucosæ, nose and breasts were comparatively slight and transient in comparison with the far stronger and more persisting reflex action between the gastrointestinal tract and the uterus and, in a lesser degree, between the bladder and the uterus. Among the numerous points of practical importance learned in this research is that distention of the stomach or intestines seems to inhibit the reflex movements of the uterus; this harmonizes with the old saying that a full stomach prolongs labor. On the other hand, the physiologic stimuli from food in the digestive tract, small amounts of a solution of sugar or albumin, milk, and the natural digestive secretions all have a powerful action in promoting the contractions of the uterus. The remarkably powerful action on the uterus movements of peptone taken by the mouth Kehrer regards as partly a reflex process from the digestive tract and partly as the result of absorption of the peptone into the blood. He found that a solution of peptone injected intravenously acted like ergot and as powerfully. The research suggests, he says, that it may be possible to promote labor contractions by administration of small amounts of the above articles of food; too much arrests the uterine contractions.

### Archiv für klinische Chirurgie, Berlin

*XCI, No. 3, pp. 343-801. Last indexed Jan. 22, p. 328*

50 Mesenteric Cystic Tumo from Retention of Chyle. (Chyluscysten.) R. Hinz.
51 *Action of Thyroid Extra on Normal Bone Growth. (Zur Wirkung der Thyreoidint letten auf das normale Knochenwachsthum.) E. Birche
52 *Clinical Experience with Sur ry of Blood Vessels. ( Klinische Beiträge zur Gefässchirurg ) Krüger.
53 *Bleeding into a Goiter. (Kro blutungen.) F. Brüning.
54 *Pathology and Therapy of Prolapse of the Rectum. (Mastdarmvorfall.) N. Beresnegowsky.
55 Pathogenesis of Round Gastric Ulcer. (Experimenteller Beitrag zur Pathogenese des Ulcus rotundum des Magens.) G. Zironi.
56 Isolated Disattachment of Lesser Trochanter. (Abrissfractur des Trochanter minor.) C. Pochhammer.
57 Familial Cystic Kidney; Recovery af ficirte Cystenniere; Nephrektomie;
58 *Artificial and Traumatic Inguinal He und traumatischen Leistenbrüche.) A. P. Krymow.
59 Epidermoids and Skiascopy. M. Krüger.

51. **Influence of Thyroid Tablets on Growth of Bones.**—Bircher's tests were made on young rats and the animals all showed arrested growth under the influence of the thyroid treatment in comparison with the controls of the same litter. The thyroid tablets seem to check the development of the epiphyses and induce emaciation.

52. **Surgery of the Vessels.**—Krüger reports 48 cases of injury of some large artery or vein with operative treatment in a number and discusses the lessons learned from this material. In 15 cases he was able to determine the ultimate outcome after ligation for aneurism or trauma of a vessel. Only 5 of the patients are entirely free from disturbances at present; the others show signs of insufficient collateral circulation.

53. **Hemorrhage into a Goiter.**—Brüning reports a case and summarizes 6 others from the literature. The indications for operative intervention are similar to those with acute appendicitis; immediate intervention in case of vital necessity, otherwise expectancy, knife in hand, operating when the threatening symptoms have subsided.

54. **Treatment of Prolapse of the Rectum.**—Beresnegowsky has been studying on the cadaver the factors which predispose to prolapse of the rectum and its mode of development. The data thus learned suggest a technic for effectual operative treatment, especially by strengthening the pelvic floor. He takes a pedunculated flap from the gluteus maximus muscle without disturbing the sphincter, working through an incision on each side of the anus, forming an acute angle with it. The aim is to reinforce the perineum by inserting a layer of staunch tissue which will support it. He gives an illustrated description of a case in which this technic was successfully applied.

58. **Artificial and Traumatic Inguinal Hernia.**—By artificial hernia Krymow means that voluntarily induced by young Russians to render themselves unfit for compulsory military service. He discusses the anatomic conditions and differentiation of artificial and traumatic hernia, with illustrated details of 5 cases, including 3 artificial and 2 traumatic hernias. The symptoms and lesions differ as the traumatism involved the parts above the inguinal ring or the ring itself.

### Beiträge zur klinischen Chirurgie, Tübingen

*January, LXV, No. 3, pp. 577-830*

60 Amyloid Tumors in the Trachea. A. Reich.
61 Pathologic (Spontaneous) Central Dislocation of the Hip Joint. K. Henschen.
62 Unusual Cause for Incarceration of Hernia. (Eine ungewöhnliche Ursache der Brucheinklemmung.) K. Blauel.
63 Contusion of Bladder and Rupture of Urethra. (Cirkuläre Ruptur der Urethra und Abreissung der Blase von der Symphyse nach seitlicher Kompression des Beckens ohne nachweisbare Verletzung des knochernen Beckens.) R. Stierlin.
64 *Menacing Hemorrhage in Stomach and Intestine. (Ueber lebensbedrohliche Magen- und Duodenalblutungen.) H. Finsterer.
66 Malformation of the Acetabulum. (Beitrag zur Enstehungsgeschichte des Otto-Chrobak'schen Beckens.) K. Henschen.
65 *Action of Radium on Malignant Tumors. A. Caan.

64. **Gastrointestinal Hemorrhage.**—Finsterer has compiled the cases from the literature since Borszeky's collection in 1906 of 78 cases of operative treatment of gastric hemorrhage with 38.4 mortality. He also reports a personal case in which uncontrollable gastric hemorrhage compelled intervention. Three gaping arteries with clots in them were found and sutured with silk, and the inferior coronary artery of the stomach was ligated to the right and left of the anastomosis. There was no further bleeding, but recovery was delayed by suppurative pleurisy requiring resection of the eighth rib and drainage, but the patient was dismissed cured after six weeks. The bleeding vessels were in a callous ulcer; gastroenterostomy had been done four years before on account of

gastric disturbances. It is a fair estimate, he thinks, that these severe gastric hemorrhages in the cases reported would have given a mortality of fully 70 per cent., while with operative intervention this was reduced to 14 per cent. The fatality in most of the operative cases was due to the intense anemia without recurrence of hemorrhage; consequently, operative intervention should not be delayed until the patient is dangerously exsanguinated.

65. **Action of Radium on Cancers.**—Caan writes from Czerny's cancer research institute at Heidelberg to describe the results of application of radium and radioactive preparations in 130 cases. In 50 per cent. a favorable influence was unmistakable; the tumors softened and shrivelled, while the subjective symptoms subsided. The influence was most marked on malignant lymphomas.

### Berliner klinische Wochenschrift

*January 17, XLVI, No. 3, pp. 89-132*

67 *Flatulence and its Treatment. I. Boas.
68 *Tests of Pancreas Functioning. J. Wohlgemuth.
69 Clinical Determination of Diabetic Acidosis. H. C. Geelmuyden.
70 Diagnostic Importance of Tendon and Skin Reflexes in Uremia. (Diagnostische Bedeutung der Sehnen- und Hautreflexe bei Urämie.) H. Fette.
71 False Teeth in Prophylaxis of Cancer. (Trauma und Zahnprothese.) M. Hahn.

67. **Flatulency.**—Boas reiterates his plea for regulation of bowel functioning by the diet alone, a procedure which he regards as almost invariably all-sufficient unless there is organic obstruction. He urges the importance of distinguishing between flatulence from different causes, as different treatment is required. Analysis of the causes is the only guide to correct treatment. The swallowing of air during eating, especially rapid eating, in nervous individuals is the most frequent cause of exogenous flatulence. Colic is seldom observed when there is no obstruction to the passage of feces in this form of flatulence. The flatus is comparatively odorless; this variety is obstinate and only to be cured by better habits of eating and by systematic toning up of the nervous system. Drugs to combat the flatulency are useless. The indications are different with flatulence of alimentary origin, especially when there is chronic constipation or intestinal catarrh. The diet should be regulated to exclude gas-forming substances, and among these he places milk; there are many persons who react to milk and buttermilk with violent and painful flatulence. Eggs and dishes containing eggs frequently induce great production of gas, especially in winter when it is difficult to obtain fresh eggs; persons inclined to intestinal catarrh or habitual constipation and flatulency should be very cautious in the use of eggs. Of still greater importance in this respect is the blood content of meat; nothing is so subject to offensive putrid composition, he says, as blood. He consequently recommends entire avoidance of roast or broiled beef and mutton, and thorough cooking of all meats and avoidance of all raw or rare foods. In individual cases potatoes may maintain fermentation dyspepsia. The tolerance of the patients for various foods must be tested; sugar, dextrinated flours, wheat bread and rice may be well tolerated. The only drug which he has found effectual against flatulence and gastrointestinal fermentation in general is magnesium salicylate, in doses of 1 or 2 gm. (15 to 30 grains) three times a day; it seems to have a marked influence in preventing putrid gaseous fermentations while free from the usual by-effects of other salicylic preparations, and it is not constipating. It is serviceable only in alimentary or intestinal putrefactive processes. In case of organic changes favoring flatulence, purgatives are necessary, and for this he prefers castor oil in small repeated doses. When the flatulence is the result of congestion with heart disease, heart tonics may be useful.

68. **Tests of Pancreas Functioning.**—Wohlgemuth remarks that none of the present tests in vogue is really reliable, but that his experimental research and clinical experience seem to be demonstrating that the proportion of diastase in the urine and feces is very much increased in case of obstruction of the outlet of the pancreas. Determination of the proportion of diastase in urine and feces, after a test diet for two days, gives most instructive information in regard to pancreatic functioning. He gives the details of the technic which he has found most effectual for the purpose.

### Deutsche medizinische Wochenschrift, Berlin

*January 27, XXXVI, No. 4, pp. 153-206*

72 Acute Fatty Degeneration of the Liver after Resection of One Lobe. (Akute Leberverfettung nach Resektion eines Leberlappens.) Rinne.
73 *Unpedunculated Flaps to Insure Healing of Sutures. (Ueber die Verlötung unsicherer Nahtlinien durch freie Autoplastik.) F. König.
74 *Appendicitis an[illegible] [illegible]pendix in Hernia. (Die Entzündung [illegible] des Wurmfortsatzes im Bruchsacke.) [illegible]
75 *Diagnostic Importance of Seroreaction in Tuberculosis with Special Regard to the Cobra Venom Reaction. S. Pekanovich.
76 Modified Technic [illegible] (Die Serodiagnose der Lu[illegible] [illegible]ocholsaures Natrium.) F. [illegible]
77 Diagnostic [illegible] (Bewertung der [illegible]
78 Treatment [illegible] [illegible]lsner.
79 Weakness [illegible] [illegible]atment. (Muskuläre Augenschl[illegible] E. A. Heimann.
80 Treatment [illegible] Disease. (Zur Behandlung [illegible] Augenkrankheiten.) J. Eisenstein.
81 Traumatic Origin of Abscess in Nasal Septum. (Nasenscheidewandabszess.) Andereya.
82 [illegible] [illegible]ytic A[illegible] über [illegible] mit [illegible]

73. **Strengthening Sutures by Autoplastic Flaps.**—König refers especially to suture of the abdominal wall after radical treatment of hernia and also suture of wounds in mucosa. By covering the line of suture with a broad piece of flexible tissue, the wound is soldered together, as it were, and the suture gains materially in strength. The flap used may be of periosteum, fascia tissue or the wall of a vessel. In two cases he used a piece cut from the aponeurosis of the rectus abdominalis to reinforce a suture of the bladder wall; the square flap extended for from 0.5 to 1 cm. beyond the wound and was fastened with silk all around. The defect in the aponeurosis and the incision in the skin above were also sutured with silk. He thus reenforced a suture after closing a defect in the urethra left from a rodent chancre. The flap used in this case was taken from the saphenous vein which he slit for the purpose. The vein flap healed promptly in place and the operation was successful. He suggests the possibility of thus soldering a suture in the dura after removal of a brain tumor, using a flap of periosteum or fascia. The latter tissue is particularly useful, as it can be obtained usually near at hand. Autopsy in some cases after an operation of this kind showed that the auto-flap had healed perfectly in place. Bone is less adapted for this procedure, as it does not fit so well to the tissues beneath.

74. **The Appendix in Hernia.**—Thon reviews the literature on this subject, and states that there were no fatalities in his own experience with 8 cases of appendicitis in the hernial sac, even although the appendix was strangulated in 5 cases.

75. **Serodiagnosis of Tuberculosis.**—Pekanovich obtained positive responses in from 87 to 90 per cent. of 62 patients with pulmonary tuberculosis tested with the cobra venom hemolytic test according to Calmette's technic. At the same time he obtained a positive reaction also in 27.8 per cent. of 38 patients apparently entirely free from tuberculosis.

### Fortschritte der Medizin, Leipsic

*January 20, XXVIII, No. 3, pp. 65-96*

83 Treatment of Pertussis. (Behandlung des Keuchhustens.) R. Fischl.

### Medizinische Klinik, Berlin

*January 23, VI, No. 4, pp. 127-166*

84 *[illegible] [illegible]ecent Puerperal Infection. G. Winter.
85 [illegible] of Internal Organs. (Nervöse Stör[illegible] Organe.) E. Magnus-Alsleben. Commenced in No. 3.
86 Interaction of Organs with Internal Secretion. (Wechselwirkung der Organe mit innerer Sekretion.) Caro.
87 *Tabes Dorsalis in Boy of 13. (Beitrag zur infantilen Tabes.) W. Spitzmüller.
88 Apparent Cure of Diabetes in Girl Under 10. Hürter.
89 Mouse Favus in Human Beings. (Vorkommen von Mäusefavus beim Menschen.) [illegible]
90 [illegible] (Aufnahmen von Radio[illegible] ohne Verstärkungsschirm.) [illegible]
91 Angiomatous Nevi at the Back of the Neck. (Naevi angiomatosi in der Hinterhauptsnackengegend.) E. Saalfeld.
92 Points to be Borne in Mind in Operative Treatment of Recurring Eczematous Lesions of Cornea. (Zur operativen Behandlung der rezidivierenden ekzematösen Hornhauterkrankungen.) Neubann.
93 Experiments with Parabiosis. G. M. Cristea and W. Denk.

**84. Local Treatment of Recent Puerperal Infection.**—Winter is inclined to be conservative, as he is convinced that Nature can be relied on in many cases to conquer the local uterine infection. *Analysis of 422 febrile cases during the last seven* years has shown that in only 4 cases was there a possibility that the general severe infection had developed secondarily to a direct primary infection in the uterus. Others' statistics show the same; the possibility of secondary infection is excluded in all but in 1 or 2 per cent. of the febrile cases. In all the others the infectious process in the uterine cavity remained localized; there is no reason for local treatment of such a process to prevent its spreading to general infection. Only when there is retention of secretions or long protracted endometritis does he regard local measures as justified, and they should always be mild. His experience has shown further that retention of a fragment of placenta is not necessarily followed by general infection. In 55 cases of fatal general infection *a fragment of placenta was found in the uterus* in 6 cases, but in 4 of these the uterus wall behind the piece of placenta was found sterile. In only 2 was there evidence that the infection might have occurred by this means, and in both these cases there had been fever before delivery. His rule is to remove the retained fragments of placenta at once—always with the finger—when there is no tendency to fever or local decomposition. In case of much hemorrhage, the fragment must be removed at once, even if there is local infection. The danger of fatal hemorrhage is more threatening than that of general infection. If there is no hemorrhage and the general condition is not bad, the removal of the fragment can be postponed for several days, and spontaneous expulsion promoted by energetic ergot medication. If the retention is accompanied by *intrauterine infectious conditions, peritonitis,* venous thrombosis or a tumor in the adnexa, no attempt should be made to remove the fragment unless compelled by severe hemorrhage. On the one hand, the importance of the local process is overshadowed by the intrauterine infection and, on the other hand, the manipulations on the uterus may aggravate the latter. Before attempting to remove the fragment, in case of existing local infection, the uterus should be cautiously rinsed out, continuing the irrigation for a long time; the curette should never be used. After the fragment has been detached with the finger, the irrigation should be resumed; this clears out the uterus from its secretions and washes away the germs that might otherwise settle on the site of the placenta. *Ergot should be given to prevent absorption* and further migration of germs.

**87. Tabes Dorsalis in Children.**—The patient in the case reported was a boy of 13 with no history of syphilis in the family and yet the boy's serum gave a positive Wassermann reaction. Marburg compiled 51 cases of tabes in children on record to 1908, and Spitzmüller has found a few more. Ataxia is the most prominent symptom in his case, but Marburg found it only in 56 per cent. of his cases. In this case as in a number on record, suddenly developing enuresis at the age of 9 was the first symptom of the tabes to attract attention.

### Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

*XXI, No. 1, pp. 1-180. Last indexed Jan. 1, p. 87*

94 Appendicitis, and Vascularization of Segments of Appendix. (Das Segmentäre bei der Wurmfortsatzentzündung.) W. Brunn.

95 *Meat-Eating Responsible for Appendicitis. (Zur Aetiologie der Appendicitis.) MacLean.

96 *Limits for Extensive Resection of the Small Intestine. (Ueber die obere Grenze für die Zulässigkeit ausgedehnter Dünndarmresektionen.) G. Axhausen.

97 Clinical Experience with Opsonin Research. (Klinischer Beitrag zu Wrights Lehre von den Opsoninen.) E. Schmidt.

98 *Origin of Perforating Ulcer of the Foot. (Entstehung des Mal perforant du pied.) R. Levy.

99 Progressive Retracting Dystrophy of Certain Muscles. (Myopathologische Beiträge.) H. Steinert.

100 Sensibility of the Abdominal Organs. (Kritische Bemerkungen zu einigen neueren Arbeiten über die Sensibilität der Bauchorgane.) G. Nystrom.

101 *Autodigestion of Intestine Implanted in the Stomach. (Selbstverdauung des Darmes im Magen.) G. Hotz.

102 Syndrome Resembling Bulbar Paralysis after Firearm Wound. (Fall von Pseudobulbärparalyse durch Schussverletzung.) R. Sievers.

103 *Operative Treatment of Gastric Crises in Tabes Dorsalis. (Operative Behandlung gastrischer Krisen: Foerstersche Operation.) O. Bruns and F. Sauerbruch.

**95. Meat-Eating and Appendicitis.**—MacLean found in the course of several years' practice in an Asiatic town that the Europeans were the only ones who had appendicitis. He states that helminths were present *in every* Chinese cadaver he had occasion to examine, sometimes in enormous numbers, but *appendicitis never occurred among them.* Excluding all other causes, he thinks appendicitis must be due to the difference in the diet between the European and Chinese and primitive races; the immoderate use of meat must be responsible, he says, for this child of European civilization.

**96. Limits for Extensive Resection of the Small Intestine.**—Axhausen tabulates the details of 12 cases in which from 300 to 540 cm. of small intestine was resected, including a case from his own experience. His patient was a young woman with volvulus of the small intestine with beginning gangrene and he resected 475 cm. leaving only 125 cm. of the small intestine. The case is especially interesting as he gives the metabolic findings for a time afterward. She had evidence of bilateral apical tuberculous processes at the time and the tuberculosis continued its course to a fatal ending six months after the operation. Notwithstanding the loss of 80 per cent. of the total amount of small intestine, there was no impairment of utilization of the carbohydrates ingested, but only about 64 per cent. of the fats and nitrogen was utilized and the ferments in the feces showed also the effect of the resection. *At the same time, these changes were not sufficient to have seriously impaired the patient's health if conditions* had been otherwise normal. He urges the determination of the length of the intestine left as important for estimating the length of justifiable resection; 80 per cent., as in his case, seems to be about the limit, although *Denk's patient is now* entirely healthy 18 months after resection of 540 cm., nearly 14 feet. The list includes Werelius' case reported in The Journal, *March 16, 1907, page 945, in which 12 feet and 2* inches was resected.

**98. Perforating Ulcer of the Foot.**—Levy reports 13 cases, the findings sustaining his assertion that changes in the bone are the primary process, the perforating ulcer following secondarily. Treatment should always be directed against the *primary bone lesion, and in every case of perforating ulcer* Roentgen examination for the underlying joint affection, synovial secretion or spontaneous fracture should never be omitted. He calls attention to the fact that joint lesions and spontaneous fractures are comparatively frequent complications in syringomyelia and tabes.

**101. Autodigestion of Intestine Loop Implanted into the Stomach.**—Hotz tells of his research on dogs, implanting a loop of intestine in the wall of the stomach. *There was no* destructive action on the implanted intestine if the blood supply was not disturbed but inflammatory processes developed *whenever there was a defect in substance.*

**103. Operative Treatment of Gastric Crises in Tabes.**—The Journal, Aug. 7, 1909, page 492, mentioned Foerster's case in which resection of the posterior spinal nerve roots cured at one stroke unbearable gastric crises. The sensory hyperexcitability seems to be the main factor in these crises, and the other symptoms, the excessive motility and secretion, are secondary. By interrupting the sensory routes the pains cease. The sensory tracts for the stomach probably pass from the sympathetic into the posterior roots, especially the seventh to the tenth posterior dorsal roots. These were resected *in the case reported, in two sittings, and the patient* was freed from his pain and gained four pounds a week. Bruns reports another case in which he followed this same technic. The patient was a man of 40, the gastric crises commencing 9 years before in a mild form, increasing in *intensity* until during the last year he had been entirely helpless, with no relief from the usual measures; he had lost 58 pounds in the last *two* years. Sometimes the pain extended from the stomach to the small intestine, and in two crises lumps of feces were vomited. He had not been free from pain in the stomach at any time *during the last year.* The seventh, eighth and ninth posterior roots were severed, both right and left, every trace of blood removed and the dura sutured with fine silk, the muscles with catgut. The patient was freed completely from his pains, the results confirming in every respect Foerster's assumptions *as to the causes of the gastric crises* and the indications for operative treatment. The operation is indicated only in the severest forms as it is a serious intervention and there are liable to be nutritional disturbances in the tissues interfering with healing. In Bruns' case there were superficial aseptic necrosis of the skin and furunculosis of the back afterward, all of which healed without much delay. [Resection of the posterior spinal nerve roots in treatment of spastic paralysis was recently discussed in an editorial, Jan. 15, 1910, p. 210.]

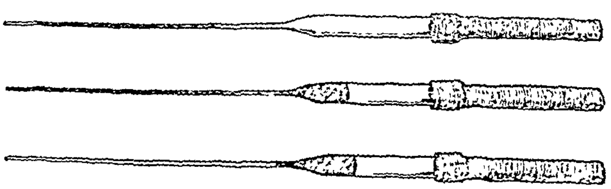
### Münchener medizinische Wochenschrift

*January 25, LVII, No. 4, pp. 169-224*

104 *Experiences with Momburg's Belt Tourniquet. (Zur Blutleere der u `lomburg.) zur Verth.
105 Acute
106 *Technic (Neue einfache Methode zur Typhusdiagnose.) M. Mandelbaum.
107 *Changes in Drop-Forming Property in Syphilitic Blood Serum: Meiostagmin Reaction. (Spezifische Eigenschaft luetischer Blutsera.) G. Izar.
108 Structure of Sinus Node. (Ueber den Aufbau des Sinusknotens der Cava superior und den C. Thorel.
109 tructive Action on Morbid Tis-
110 Explosion of Eth Course of E Aethernarkose b
111 Present Status of in No. 3.

**104. The Momburg Belt Tourniquet.**—This communication from Bier's clinic at Berlin asserts that Momburg's technic has solved the problem of shutting off half of the body from the circulation without injury, comparatively speaking. The experiments on rabbits reported by zur Verth show that the animal becomes anesthetized in a third of the time required for the control. The ureters and nerves lie in sheltered regions so that they do not feel the effect of the constriction materially. Autopsy in 1 of the 20 cases in his experience showed that the temporary constriction of the mesentery causes no serious disturbance as recuperation is prompt. Of greater importance is the effect on the pulse and blood pressure, as he shows by several curves. His findings in this respect suggest that it is better not to raise the pelvis before applying constriction to the waist, but there is great advantage in applying Esmarch bandages to both thighs, according to Momburg's technic. The Katzenstein test is of great importance and also the use of a pulse-controlling apparatus to show when the femoral pulse is completely arrested. Persons with heart disease approximate the conditions in children, but in parturients the conditions are more favorable for the Momburg technic; the growing uterus has pushed the root of the mesentery up out of the way.

**106. Rapid Method for Early Differentiation of Typhoid.**—Mandelbaum states that typhoid bacilli string out into long chains or the chains coil into a snarl when typhoid serum is added to a culture of the bacilli. This reaction seems to be specific as he never observed it with any serum except that from typhoid patients. The reaction occurs in 3 or 4 hours and is readily perceptible in the hanging drop under the microscope by this time. This reaction may also occur long before the agglutination test gives positive findings. It also seems to occur with serum from persons with a history of typhoid in the past, although the reaction develops more slowly in this case. The reaction was also slow but pronounced in the case of a chronic typhoid bacillus carrier. Mandelbaum has worked out a simple technic for the test, aiming to adapt it for general use. From 5 to 8 c.c. of a solution of 2 gm. sodium citrate in 100 c.c. of ordinary bouillon is sterilized in a test-tube as usual, and then this sodium-citrate-bouillon tube is inoculated with a loop of a motile typhoid-bacillus-bouillon culture or a scrap from an agar culture of typhoid bacilli. The culture must not be recent, but capable of growing well when further cultivated. A drop of blood is then obtained from the patient, aspirated into a long tapering capillary pipette with rubber cap like a medicine dropper (Fig. 1). Then ten or fifteen times as much of the sodium citrate bouillon inoculated with the typhoid bacillus cultures is drawn up likewise into the pipette (Fig. 2). By releasing the pressure on the rubber cap, the fluid gradually rises to fill the lower third of the broader part of the pipette. The tapering tip is then fused and the pipette well shaken to mix the contents (Fig. 3). The pipette is then kept at a temperature of 37 C. (98.6 F.) for three or four hours. The sodium citrate addition is for the purpose of preventing coagulation, and after this interval the red corpuscles will be found collected on the bottom of the pipette, with a clear fluid above. The rubber cap is then taken off and a drop of the clear fluid is taken for examination as a hanging drop under the microscope. If the blood came from a person with typhoid the bacilli in the hanging drop will be adherent, as in Figure 5, while with non-typhoid serum the bacilli are scattered isolated through the fluid, as in Figure 4. Figure 5 represents a pronounced positive reaction. When the chains are found but with a few isolated bacilli between the chains and snarls, this reaction is typical of typhoid several years before. In the one chronic typhoid bacillus carrier he was able to examine, the reaction at the fourth hour was typical of a positive existing typhoid but then the picture gradually became modified so that by the end of the eighth hour the hanging drop resembled the findings with long past typhoid. There are thus three forms of the reaction, according to his experience, which, however, is not very extensive—only 12 cases of existing typhoid, 16 of long past typhoid and 1 typhoid bacillus carrier. The findings were constant in each class and were constantly negative in 75 other persons apparently free from a history of typhoid. The pipettes are those used in opsonin tests.



Figs. 1 to 3.—Pipette.

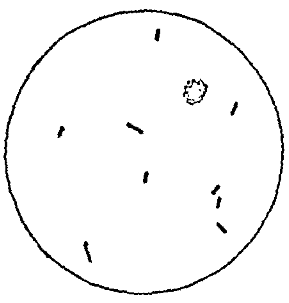


Fig. 4.—Negative reaction.

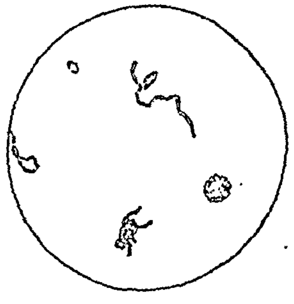


Fig. 5.—Positive reaction.

**107. Modification in Size of Drops as Specific Sign of Syphilis, Typhoid, etc.**—Ascoli calls attention to a specific test which he named the meiostagmin reaction. He measures the size of the drops with a stalagmometer and announces that the drop-forming property of various fluids becomes modified in certain pathologic conditions. Izar has applied the test to syphilitic serums and found that the addition of the syphilis antigen increased the number of drops in the test fluid while the serum of non-syphilitics had no such influence. He tabulates the findings in 12 cases of syphilis and 14 of non-syphilitics, using for the antigen an alcoholic extract of the spleen of a syphilitic fetus (0.5 gm. of pulverized spleen mixed with 50 c.c. of alcohol, incubated for two hours, filtered and evaporated to 10 c.c.) which was then diluted 1:100 parts with 0.85 per cent. salt solution. The blood serum was diluted 1 to 100 with the same salt solution. The number of drops formed by the diluted serum was determined before addition of the antigen. Then 1 c.c. of the diluted antigen was added to 9 c.c. of the diluted serum, and the whole kept at 37 C. (98.6 F.) during the two hour interval before the number of drops was again determined. There were always from 2 to 5 more drops in the fluid after addition of the antigen. In 2 cases the serum tested was received for examination labelled "Wassermann positive," but the meiostagmin reaction was negative. Investigation revealed that the serum in these cases was from patients with leprosy; here the meiostagmin reaction seems to be more exclusive and specific. Ascoli's communication related treatment the patients recovered completely in 4 days in the 2 typical cases reported.

### Norsk Magazin for Lægevidenskaben, Christiania

*February, LXXI, No. 2, pp. 105-284*

143 *Ambulant Treatment of Chronic Purulent Maxillary Sinusitis. (Nogle Ord om de kroniske antrumempyemer og deres ambulatoriske behandling.) R. Gording.
144 Vaccination against Cholera. P. Aaser.
145 *Seroreaction for Syphilis in Aortic Insufficiency. (Aortainsufficiens og Wassermann's luesreaktion.) R. Krefting.
146 Ulcerative Coloproctitis Caused by *Balantidium coli.* F. Holmsen.

143. **Treatment of Empyema in the Maxillary Sinus.**—Gording describes the intranasal technic with which he was able to cure permanently a long chronic purulent process in the maxillary sinus in 21 out of 23 cases, a proportion of 91 per cent. recoveries. This was accomplished without radical intervention, merely by ambulant conservative treatment. He does not think that carious teeth can be incriminated in the etiology of the process to the extent that some accept, as otherwise the sinusitis would be more frequent; fully 70 per cent. of all the patients at the clinic in his charge have carious upper teeth while maxillary sinusitis is rare. He opens up the sinus through the nose under local anesthesia, and there is sometimes considerable hemorrhage, requiring careful tamponing. In 2 cases tardy hemorrhage occurred. The opening into the sinus must be made broad enough to allow the entire antrum to be tamponed and a thick drain introduced. The after-treatment consists in alternate tamponing with iodoform gauze, insufflation of air and lavage, the two latter less often, the course requiring from one to five months in all. The process was of many years' standing in every instance, to sixteen years in some. He does not include in this summary a number of patients who have been lost sight of since.

145. **Wassermann Reaction and Heart Disease.**—Krefting reports the autopsy findings in about a dozen cases of aortic lesions in which the Wassermann reaction was applied with a positive response in all but one case in which, while there was a pronounced history of syphilis, the patient had been taking considerable amounts of potassium iodid which might possibly explain the negative seroreaction. In another group of 8 cases of heart disease there was no reaction to the Wassermann test. One of these patients came to autopsy and nothing was found to suggest a history of either acute articular rheumatism or syphilis to explain the infectious polypous endocarditis and aortic insufficiency. His cases show that a syphilitic aortic lesion may become superposed on an old non-syphilitic cardiac lesion.

### Ugeskrift for Læger, Copenhagen

*January 20, LXXII, No. 3, pp. 61-86*

147 *Determination of Tubercle Bacilli in Larynx Mucus. (Om Paavisning af Tuberkelbaciller i Larynxslim.) K. Lundh.

*January 27, No. 4, pp. 87-114*

148 *Ocular Symptoms in Exophthalmic Goiter. (Øjentilfælde som Udslag af Morb. Basedowii.) C. F. Heerfordt.

147. **Tubercle Bacillus in Mucus from Larynx.**—Lundh was able to reveal the presence of tubercle bacilli in mucus scraped from the larynx in 7 out of 66 tuberculous patients who had so little expectoration that there was no sputum for bacteriologic research. All the patients with positive findings were in the second or third stage of pulmonary tuberculosis, none in the first.

148. **Symptoms on the Part of the Eyes in Exophthalmic Goiter.**—Heerfordt discusses the exophthalmos, symptoms on the part of the lids and ocular muscles, anomalies in the lacrimal apparatus, conjunctiva and cornea, and other affections liable to occur with the disease. The exophthalmos may be unilateral, and in many cases the protrusion of the eyeball is within physiologic limits. The movements of the eyes are not impaired with exophthalmic goiter as much as with other forms of exophthalmos. The eyelids may be sluggish in their movements, especially in regard to following the movement of the eyeball downward. The absence of normal involuntary winking is also an early symptom, the patient not winking for minutes at a time and then only in a rudimentary manner. These symptoms on the part of the eyelids may appear on one or both sides. Paresis of the ocular muscles is more characteristic than mere insufficiency of convergence. Ocular paresis may develop with other motor disturbances in the course of the disease. Epiphora is frequently encountered and usually early in the disease; it may accompany exacerbation of other symptoms. It may even be the first symptom that brings the patient to the physician. Later the patient may complain of dryness of the eyes and the lacrimal secretion may be found reduced. Hyperemia in the eyeball and conjunctiva is frequent in incipient exophthalmic goiter and may return frequently later. There is no evidence to show that the disease is directly responsible for the development of cataract, myopia, restriction of the visual field, glaucomatous conditions or atrophy of the optic nerve. Becker called attention to a peculiar characteristic pulsation in the centralis retinæ artery, but no one seems to have confirmed his finding.

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## Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

A System of Clinical Medicine. Dealing with the Diagnosis, Prognosis and Treatment of Disease, for Students and Practitioners. By Thomas D. Savill, M.D., Physician to West End Hospital for Disease of Nervous System. Second edition revised by the author, assisted by Frederick S. Langmead, M.D., Casualty Physician to St. Mary's Hospital, and Agnes F. Savill, M.D., Casualty Physician to St. John's Hospital for Diseases of the Skin. Cloth. Price, $7. Pp. 963, with 172 illustrations. New York: Longmans, Green & Co., 1909.

Diseases of Genitourinary Organs. Considered from a Medical and Surgical Standpoint, Including a Description of Gonorrhea in the Female and Conditions Peculiar to the Female Urinary Organs. By Edward L. Keyes, Jr., M.D., Clinical Professor of Genitourinary Surgery, New York Polyclinic Medical School. Cloth. Price, $6. Pp. 975, with 195 illustrations. New York: D. Appleton & Co., 1910.

Preparatory and After Treatment in Operative Cases. By Herman A. Haubold, M.D., Clinical Professor in Surgery and Demonstrator of Operative Surgery, New York University and Bellevue Hospital Medical College, New York. Cloth. Price, $6. Pp. 650, with 429 illustrations. New York: D. Appleton & Co., 1910.

Nutrition and Dietetics. A Manual for Students of Medicine, for Trained Nurses, and for Dietitians in Hospitals and other Institutions. By Winfield S. Hall, M.D., Professor of Physiology, Northwestern University Medical School. Cloth. Price, $2. Pp. 315 with illustrations. New York: D. Appleton & Co., 1910.

Manual of Operative Surgery. By John F. Binnie, A.M., Professor of Surgery, Kansas State University, Kansas City. Vol. II, Vascular System, Bones and Joints, Amputations. Half morocco. Price, $3.50 net. Fourth Edition. Pp. 553 with 550 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

New and Nonofficial Remedies, 1910. Containing Descriptions of Articles which have been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1, 1910. Cloth. Price, 50 cents (paper, 25 cents). Pp. 256. Chicago: American Medical Association, 1910.

Handbook of Therapy. With an Explanation of the Metric System and Tables of Metric Equivalents, Weights and Measures and Lists of Synonyms, Latin Terms, Abbreviations, Poisons and Antidotes, etc. Cloth. Price, $1.50. Pp. 421. Chicago: American Medical Association, 1910.

Serum Diagnosis of Syphilis and the Butyric Acid Test for Syphilis. By Hideyo Noguchi, M.D., Associate Member of the Rockefeller Institute for Medical Research, New York. Cloth. Price, $2 net. Pp. 173, with 14 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

Eugenics. The Science of Human Improvement by Better Breeding. By C. B. Davenport, Carnegie Institution of Washington, Director Department of Experimental Evolution. Cold Spring Harbor, N. Y. Cloth. Price, 50 cents net. Pp. 35. New York: Henry Holt & Co., 1910.

Scientific Living for Prolonging the Term of Human Life. The New Domestic Science; Cooking to Simplify Living and Retain the Life Elements in Food. By Laura Nettleton Brown. Cloth. Price, $1. Pp. 284. New York: The Health-Culture Co., 1910.

Living Anatomy and Pathology. The Diagnosis of Diseases in Early Life by the Roentgen Method. By Thomas M. Rotch, M.D., Professor of Pediatrics, Harvard University. Cloth. Price, $6. Pp. 225, with 303 illustrations. Philadelphia: J. B. Lippincott Co.

The Essentials of Chemical Physiology for the Use of Students. By W. D. Halliburton, M.D., Fellow of the Royal College of Physicians. Cloth. Price, $1.50. Pp. 280 with 71 illustrations. Seventh Edition. New York: Longmans, Green & Co., 1909.

Handbuch der Biochemie des Menschen und der Tiere. Herausgegeben von Prof. Dr. Phil. et Med. Carl Oppenheimer in Berlin. Paper. Price, 5 marks. Twenty-fourth installment. Pp. 192. Jena: Verlag von Gustav Fischer, 1910.

Des Haarschwunds Ursachen und Behandlung. Von Dr. S. Jessner (Dr. Jessner's Dermatologische Vorträge für Praktiker, Heft 1). Paper. Price, 90 pfennige. Ed. 6. Pp. 52. Wurzburg: Curt Kabitzsch (A. Stubers Verlag), 1910.

St. Luke's Memorial Hospital, Ponce, Porto Rico. Second Annual Report, 1909. Paper. Pp. 33.

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## *Original Articles*

# SURVIVAL OF ENGRAFTED TISSUES

## A, THYROID (INCLUDING PARATHYROID); B, KIDNEY (INCLUDING ADRENAL) *

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### A. THYROID

For a long time it has been known that thyroid tissues may be successfully engrafted.[1] Kocher[2] (1883) and Schiff[3] (1884), in the early eighties, the former using dogs and the latter operating on man, obtained temporary benefit by grafting after removal of the thyroids.

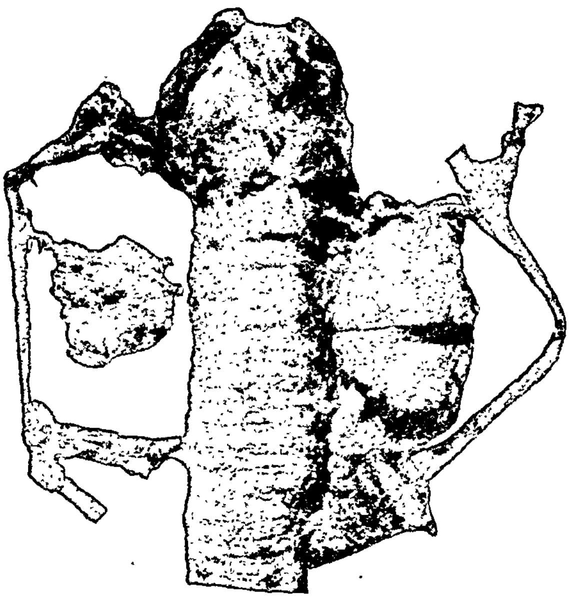

Fig. 1.—Right thyroid lobe of Dog 00, thirty-three months after *removal and replacement*, with reversal of circulation in superior thyroid artery and vein.

In 1892 Eiselsberg[4] reported anatomically and physiologically successful results on cats. A little later Cristiani[5] reported successful results on numerous species of animals. All such transplantations have been performed without anastomosis of the blood-vessels, so that the results have been best when thin masses of tissues have been employed.[5]

The data we have to record were obtained by removing one entire thyroid lobe in a young 35-pound dog and replacing it, after washing out its vessels with salt solution, anastomosing the peripheral end of the superior thyroid vein to the central end of the corresponding artery; and the peripheral end of the artery to the central end of the vein, thus establishing a reversed circulation through these vessels. Great swelling of the gland occurred, and some infection ensued, but the swelling soon disappeared and the wound healed. The dog never showed any general symptoms indicative of deranged thyroid metabolism. Two years and nine months later the animal was killed with chloroform and the specimen examined. The gross relations are shown in Figure 1.

Anatomically, the left thyroid lobe was moderately enlarged and presented the appearance of colloidal goiter. The right lobe was quite fibrous and dense to the touch and adherent to surrounding structures. On dissection, the superior thyroid vessels were found intact. Owing to the fibrous adhesions it was difficult to make a satisfactory dissection of the vein. The artery is shown in Figure 1, and the point of union of artery to vein is shown in the same illustration.

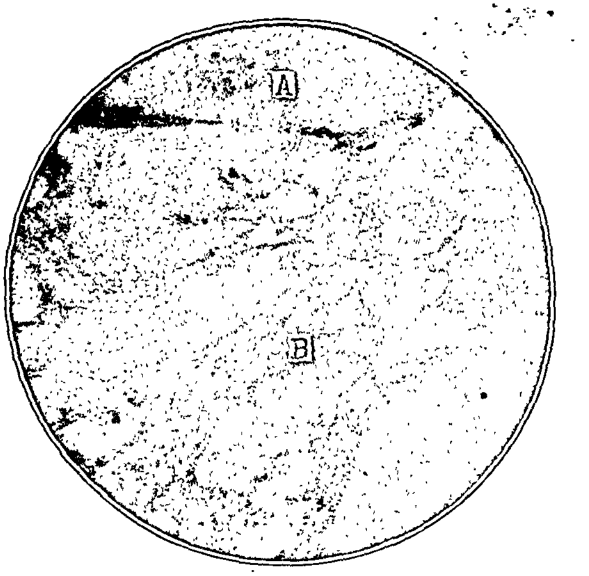

Fig. 2.—Microphotograph thyroid lobe (Dog 00), not operated on. Note large amount of granular colloid (A), and small amount of clear colloid (B) and fibrous relations.

Microscopically, the lobe which had not been operated on presented the appearance of colloidal goiter (Fig. 2). The lobe which had been operated on showed an enormously thickened connective tissue capsule (Fig. 3). The substance of the gland showed an abundance of normal staining colloid. The walls of the acini were considerably thicker than normal, due in part to strands of connective tissue. Otherwise the histologic elements themselves appeared normal, the arrangement only being abnormal.

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* From the Physiological Laboratories of Washington and Pittsburg Universities.

[1] For literature, see Vincent: Lancet, London, Aug. 11 and 18, 1906.

[2] Kocher: Cor.-Bl. f. schweiz. Aerzte, 1895; quoted by Vincent: Lancet, London, Aug 11 and 18, 1906.

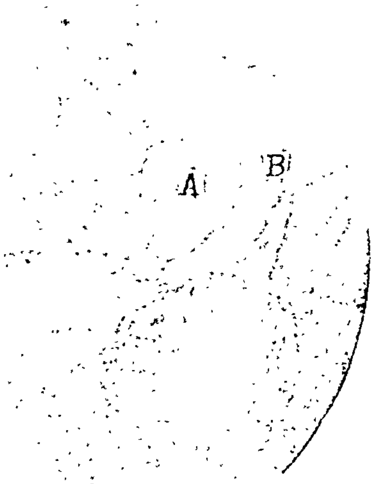
[3] Schiff: Rev. Méd. de la Suisse rom., 1884, p. 438; quoted by Vincent, Lancet, London, Aug. 11 and 18, 1906.

[4] Eiselsberg: Wien. klin. Wchnschr., 1892, No. 5, p. 81.

[5] Cristiani: Compt. rend. Soc. de biol., 1894, p. 716; Jour. de physiol. et path. gén., 1901, p. 204.

Considering (1) that the auto-engrafted tissue was perfused with saline solution:[6] (2) that the restored circulation was in the reverse of the normal direction thus contributing to the hyperemia; and (3) that the wound became infected, we may hope, since all of these factors probably are against the best result, that similar ~rations performed under more favorable conditions ... yield even better results.

gh ... *thyroid.*—The results on the parathyroid tissue nside... yet been sufficiently studied to permit their ases ta.. at this time. Recently, however, an inter- st be ma.. Halsted[7] has appeared in which com- ... oned and a parathyroid grafting is reported. ... ful ... in alterna these results in another place.[8] it shall ... ir and lava hat the survival of an exceed- licient to state ... one to ...



... old lobe (Dog 00), operated on. ... us amount of fibrous tissue (B).

tissue seems adequate to symptoms of thyropara- ... or example, after trans- s[7] and removal of the s, the dog remained in later but one of the uld be found. This was log died of tetania para- third?) day after the 'unctional state of the issue was then cut for sections being preserved serially. The total number of sections was 150, yet the parathyroid tissue was found only in the last 20 sections. The thickness of the sections is not stated, but probably it did not exceed 30 microns. Taking this as an outside estimate, then in one dimension the parathyroid tissue measured not over 0.6 mm. As shown in one of the plates accompanying the article (No. III, it would seem from the dog number, the reference to No. II probably being an oversight by the author), the parathyroid tissue is somewhat elliptical in shape. In the long diameter it measured 40 mm. As this is magnified 90 times (diameters, I take it), then 0.44 mm. is approximately the actual dimension. Roughly, then the mass of parathyroid tissue measured 0.6 by 0.44 mm., a spherical mass having a diameter less than the thickness of an ordinary pin. From this standpoint, the parathyroid tissue would seem to be the most precious of any tissue in the body of which we have specific information. The weight of the dog would be of interest in this connection,

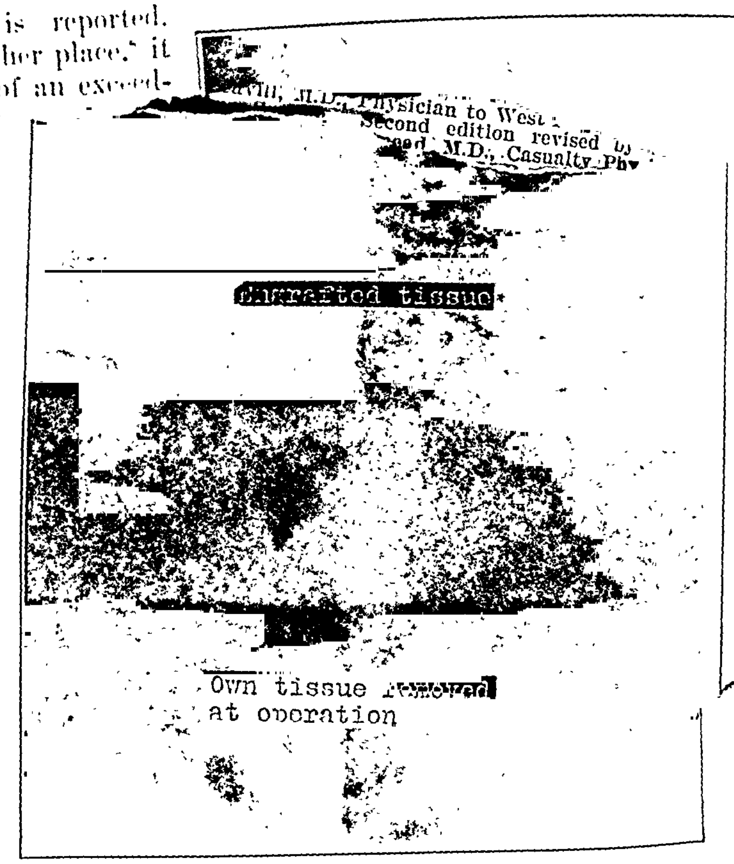

...vill, M.D., Physician to West
Second edition revised by
...eed, M.D., Casualty Ph
Engrafted tissue
Own tissue removed
at operation

Fig. 4.—Microphotograph showing infiltration of tissue in boundary region (to the right) and more profound degenerative changes in cortical region (to the left) of iso-engrafted kidney seventeen days after the operation (cat). Small pieces of one of the kidneys removed at the operation, and of an engrafted kidney, were mounted on one block and sectioned, stained and photographed together for comparison.

but it was not included in the protocol. It may be remarked that some thyroid tissue is figured in both of the plates accompanying the paper.

### B. KIDNEYS

Only transplantation of renal tissue with anastomosis of blood-vessels will be considered, since a very important function of the kidney is so well known to be the separation from the blood of and excretion of waste products, retention of which is rapidly detrimental or fatal to the animal. Obviously, then, to approach anywhere near to the normal conditions of such an organ, it is necessary to provide a functional as well as a nutrient blood-supply, and to provide a channel for the escape of the excretions to the outside of the body; otherwise a functional test of the operation is impossible.

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ogic Aspects of Blood-Vessel 908, LI, 1658; The Harmful n Animal Tissues, Washington

tation and Isotransplantation, les, Jour. Exper. Med., 1909,

lally stated in the protocol ment that "the dog is, pre- ed glands," as well as the rly indicates it.

. xi, 192.

Also, not only for anatomic reasons (connections of tubules, etc.), but for the reason that an animal cannot long survive mere excision of renal tissue in excess of three-fourths of the total amount,[11] for, in spite of a polyuria, a fatal derangement of metabolism follows. That the protein metabolism is particularly affected is indicated by the rapid wasting of the muscular tissues and large amounts of urea excreted.[11]

This upsetting of the metabolism has been attributed by Bradford to lack of internal renal secretion. It would seem from this standpoint that the internal secretion of less than one-half of one kidney is insufficient to maintain life. It is necessary, therefore, to engraft one-half or more of a kidney, fulfilling at the same time the requirements as to a functional circulation and to an excretory channel. A mass of tissue this large could not possibly survive without attention to the blood-vessels, at least in any but very small animals, even if there were no other valid reason against employment of the simple method. Since it is well known that one kidney is adequate for maintaining life, and since the entire kidney is easiest to handle, such operations should be performed with the entire organ, or both.

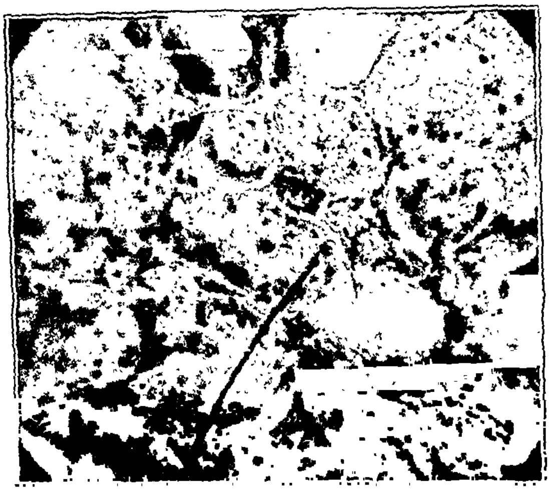

Fig. 5.—Degenerative changes in the tubular epithelium of an engrafted kidney

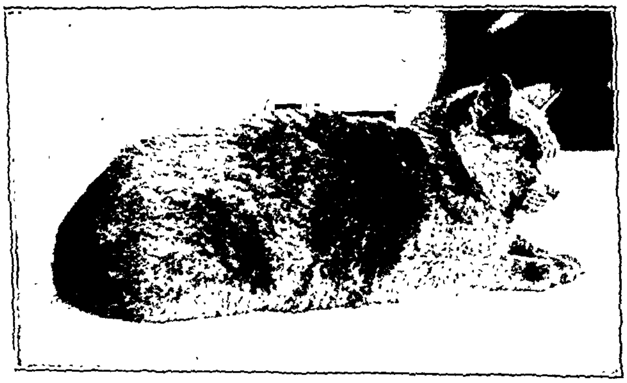

*Fig 6.—Cat from which one kidney was removed and in its place a kidney from another cat engrafted. Photographed about one year later. The animal did not survive the functional test. (THE JOURNAL A. M. A., 1908, ii, 1658.)*

Floresco[12] seems to have been the first to publish a feasible method of transplanting the entire kidney with anastomosis of the blood-vessels and report successful results. He used dogs. His transplanted kidneys were not, so far as I am aware, successfully put to the functional test, i. e., not all of the original kidney tissue was removed; and, therefore, his results are not conclusive. Later, in 1905, Carrel and I engrafted a kidney into the cervical region in a manner similar to that practiced by Ullmann[13] with excellent temporary result as regards the circulation and preservation of excretory function. The renal artery was connected with the carotid and the renal vein with the jugular. The ureter was made to open into the esophagus. A few days after the operation the dog was anesthetized and the transplanted kidney examined and compared with the kidney left in the normal situation. It presented an exaggerated circulatory and secretory activity.[14]

After having devised a method of transplanting tissues *en masse*, i. e., with their surrounding structures, obtaining an adequate blood-supply by using the parent blood-vessels, e. g., in the case of the kidneys, interposing segments of the aorta and vena cava containing the origins of the renal vessels between the cut ends of the corresponding vessels of the host, we practiced renal isotransplantations on dogs[15] and cats with excellent results up to several weeks. But in all of our animals, as well as in all such experiments since reported by Carrel, death has soon terminated the experiment.[16]

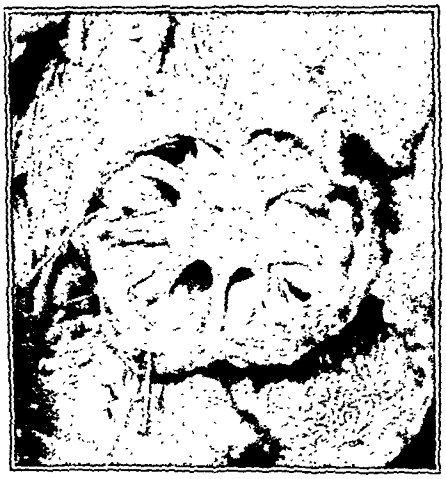

Fig. 7.—Engrafted kidney at post-mortem examination of cat shown in Fig 6. (THE JOURNAL A. M. A., 1908, ii, 1658.)

Gross histologic examination shows a congestive, hemorrhagic and progressive degenerative process. In the beginning the circulatory change is greatest in the boundary zone, but later the cortex of the kidney presents extensive hemorrhages and degeneration and disappearance of the renal cells (microphotograph of seventeen-day cat, Fig. 4). An early stage of this process is shown in Figure 5.

There seems to be some variation in the results, e. g., rate and magnitude of the pathologic processes. But the degenerative processes are progressive, the seventeen-day specimen showing much more marked degenerative changes than specimens taken after shorter intervals. In all of these experiments the kidneys were subjected to complete anemia and perfusion with saline solution, and, as I have pointed out in another paper,[9] these factors have to be taken seriously into account. In a case in which only one kidney was removed from a cat one kidney from another cat was introduced and appropriate vascular and ureteral connections made. This animal did well, as shown by the photograph taken about a year later (Fig. 6). Her remaining original kidney was then removed and she died in a few days with the usual symptoms of renal insufficiency. Figure 7 shows the gross appearance of the kidney.[6] Histologically, only traces of normal structure remain (see microphotograph, Fig. 8), a few glomeruli and tubules having preserved sufficient of their structure for identification. This, so far as I am aware, is the longest observation which has been recorded on an iso-engrafted kidney, and therefore the longest instance of survival of such engrafted renal tissue.

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[11] Bradford: Jour. Physiol., 1889, x, 358.

[12] Floresco: Jour. de physiol. et de path. gén., 1904, vii, 27.

[13] Ullmann: Wien. klin. Wchnschr., 1901, xv, 281.

[14] Science, new series, 1905, xxii, 473.

[15] Science, new series, 1906, xxiii, 394.

[16] Since this paper was written, Unger (*Berl. klin. Wchnschr.*, June 7, 1909), has reported results of kidney transplantations by this method on seventy dogs and cats. One dog survived eighteen, and one cat ten days. At death the implanted kidneys showed marked nephritis. All the other animals died earlier.

In addition to the period of complete anemia with perfusion to which this kidney was subjected at the time of operation, other factors probably contributed to the disappearance of renal tissue. There was more or less ureteral stenosis, but whether this was due to a lack of activity on the part of the kidney or to operative fault is, of course, unknown. The same was true of the renal blood-vessels, and, as in the case of the ureter, the primary factor in producing the condition is unknown. That the kidney still received blood is evidenced not only by the examination at the time of the last operation, but by the presence of a relatively large mass of tissue; for when the circulation to a kidney is completely shut off absorption soon occurs.

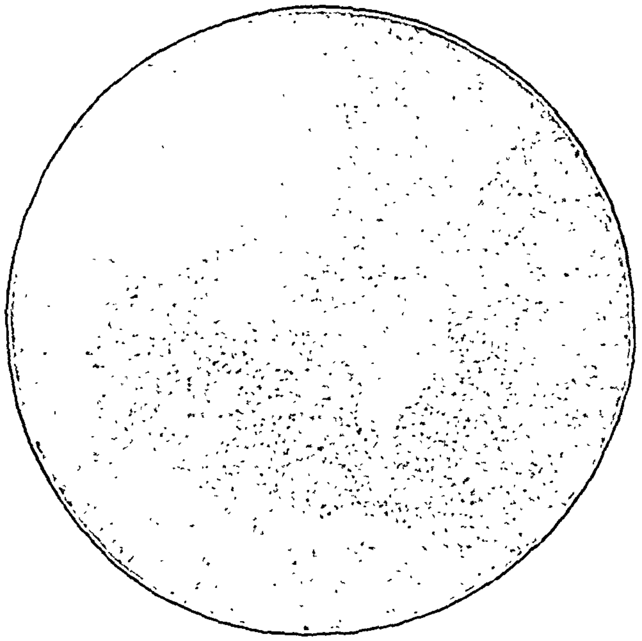

Fig. 8.—Microscopic appearance of kidney shown in Figure 7.

*Adrenals.*—As in the case of the parathyroid, our adrenal material has not been sufficiently studied to permit of conclusions. In this connection the results of Busch and von Bergen[17] may be mentioned. These investigators transplanted the tissue into the spleen and some weeks later found good histologic structure in the grafts.

The results of a series of experiments on the thyroid and renal apparatus of fowls will be reserved for a later report.

SUMMARY

Renal isografts with anastomosis of blood-vessels and ureters have so far been only temporarily successful functionally, as shown by the death of the animal within a few weeks. Anatomically, congestive, hemorrhagic and degenerative changes occur so that the normal structure is soon lost. After a year, when sufficient renal tissue was left to perform the required physiologic functions, the transplanted kidney still presented a reminiscence of renal structure, but was totally incapable of adequate functioning, as shown by the death of the animal (cat) on the removal of the original normal kidney.

Thirtieth Street and Brereton Avenue.

# RECURRENT ANTERIOR DISLOCATION OF THE SHOULDER

## WITH A REPORT OF THREE CASES TREATED BY CAPSULORRHAPHY THROUGH AN AXILLARY INCISION *

T. TURNER THOMAS, M.D.

Associate in Surgery in the University of Pennsylvania; Surgeon to the Philadelphia General Hospital; and Assistant Surgeon to the University Hospital

PHILADELPHIA

As the result of a previous study[1] of this subject I have concluded that the habitual or recurrent dislocation of the shoulder originates in a traumatic dislocation, and that the pathology of the two conditions is essentially the same, the only difference being that in the recurrent dislocation the gap between the margins of the capsular tear produced by the original dislocation becomes filled in by a new relaxed cicatricial portion of capsule of varying thickness. With such a cause the rational treatment would be to shorten the relaxed portion of capsule. The results of such treatment, more than any other factor, should determine whether this is the true pathology or not. In 34 cases which I collected from the literature and published in my first paper, in one case reported recently by Dahlgren,[2] in 2 by Wilmanns[3] and in the first 3 in which I operated, this operation was followed by a positive cure in all except one. My fourth case promises a similar result. In Legueu's case, recurrence occurred twelve weeks after operation from a fall on the affected shoulder in an epileptic attack. I was not inclined to regard this as a failure of the operation to cure, in view of the period intervening between the operation and the recurrence and in view of the severe force probably applied by the fall on the shoulder, as this degree of violence seems to have been sufficient to produce a dislocation in a normal shoulder. More recently I have had the opportunity of operating on a patient in whom each of two previous similar operations had been followed by recurrences. This patient says that he knows of another case in which operation failed to prevent the recurrence of the dislocations.

Case 1.—*History.*—The patient, a man 42 years old, coal miner, had his first dislocation twenty-five to thirty years ago, when he was caught by a mule between the teeth and thrown some distance. He suffered severe pain and disability in the left shoulder, but did not call a doctor until the following day, when a dislocation of the shoulder was discovered and reduced.

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[17] Busch and von Bergen Proc. Am. Physiol. Soc., Am. Jour. Physiol., 1906, xii, 16.

* Read before the Philadelphia County Medical Society, Oct. 27, 1909.

[1] Thomas, B. T.: Am. Jour. Med. Sc., March, 1909. Univ. Penn. Med. Bull., March, 1909.

[2] Dahlgren: Abstract, Zentralbl. f. Chir., 1909, xxxvi, 55.

[3] Wilmanns: Zentralbl. f. Chir., 1909, xxxvi, 420.

The arm was not bound to the side of the body, but was supported from the forearm by a sling for three or four weeks. During this time the patient would take the arm from the sling frequently and use it for eating, washing, etc. He thinks that some years elapsed before the second dislocation took place, but his memory is vague on this point. This was caused by a blow on the outer side of the shoulder by a rather small piece of coal. The following recurrences became more frequent, how frequent he cannot recall. He says that he has had hundreds of them. During one week, recently, the dislocation occurred every day and twice in one day. He has had as many as three in one day. He gave up all work, because he did not dare to move the arm from the side of the body. When the arm is in abduction some twist is necessary to produce the dislocation, but he does not know what that movement is. He has had recurrences in bed during sleep, and for twelve years has been tying his arm to the side of the body on going to bed to prevent the recurrences. He has never had a dislocation when the arm was so tied.

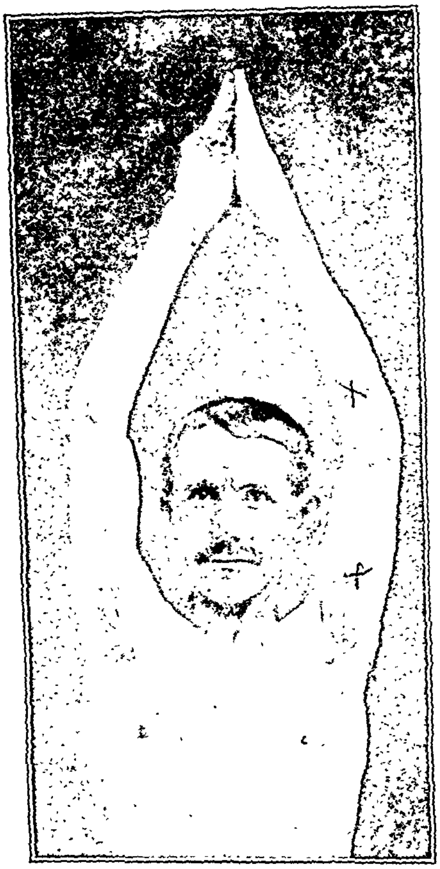

Fig. 1.—Front view of Patient 1. Deformity from scar in right hand.

*Operation.*—Performed Jan. 30, 1909, at the University Hospital in the service of Prof. J. William White, to whom I am indebted for the privilege of operating on the patient and reporting the case. The incision was made in the axilla along the coracobrachialis muscle and extended upward to the side of the chest and was about 5 inches long. The coracobrachialis, biceps and pectoralis major muscles were strongly retracted outward and the axillary vessels and nerves, including the musculocutaneous nerve, were retracted inward. The anterior circumflex vessels were divided between ligatures and the latissimus dorsi exposed in the floor of the wound. The circumflex nerve and posterior circumflex vessels were located as they passed backward between these two muscles. About half of the width of the subscapularis muscle was then divided on a grooved director, and cut ends turned aside, exposing the capsule. The capsule seemed to be of about the normal thickness and showed no evidence of the original tear. It was opened by an incision about an inch and a half long, in the line of the anterior glenoid margin and about half an inch below it. Exploration of the joint at first detected no abnormal condition, but when the humeral head was forced strongly outward and the finger could palpate the posterior surface of the head, it was found to be superficially flattened on its cartilaginous surface just above the greater tuberosity. The flattened area was approximately circular and about an inch or an inch and a half in diameter. This probably had something to do with the frequency and ease with which the recurrences took place. There was also a slight roughening of the anterior glenoid margin. The joint surfaces were placed in their normal relations and the capsule shortened with No. 3 chromicized catgut sutures, the upper edge of the capsule being drawn down over the lower edge. The cut subscapularis was then repaired by catgut sutures, a small drain introduced to the lower edge of this muscle, and the skin wound closed by silkworm-gut sutures. A dressing was applied, the arm bound to the side of the body, and the wrist supported in a sling.

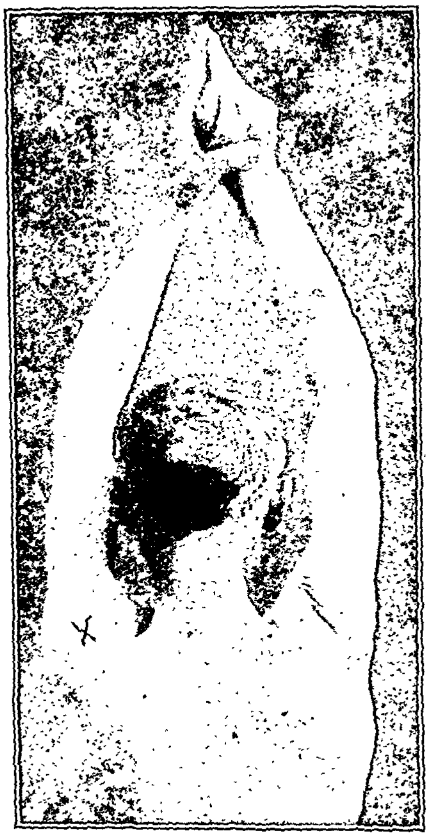

Fig. 2.—Back view of Patient 1. Movement of scapulæ same on both sides. Depression in front of acromion in right shoulder due to better muscular development on that side.

*Postoperative History.*—The drainage-tube was removed on the following day. Healing occurred by first intention. The patient was discharged from the hospital on the eighth day, and on the ninth day the bandages were removed and the arm placed in the sleeve of the coat, the hand being supported in front between the buttons of the coat. There was a slight degree of voluntary motion in all directions at this time. The patient left the city on the twelfth day. The arm was bound to the side of the body during sleep for another week. Three weeks after operation forcible movements were begun and in about ten weeks the patient could raise his arm straight above his head. About thirteen weeks after operation the patient met with an accident, falling headlong from a balcony fourteen feet high, to which there was a railing three feet high, striking, he says, on his hands, head and shoulders. His hands were severely bruised and abraded, and he had a large wound of the scalp, which extended from the eyebrow across the vault of the skull to the occiput. A fracture of the skull was diagnosed. He remained in bed nine weeks, and for months afterward suffered from mental disturbances. He has not been able to go to work up to the present time. He did not, however, sustain a dislocation of the shoulder in this accident or at any other time since the operation. He says that the affected arm is the better of the two, now. He has, however, in the hand of the opposite side, a deformity from a large and rigid scar due to an old wound (Figs. 1 and 2).

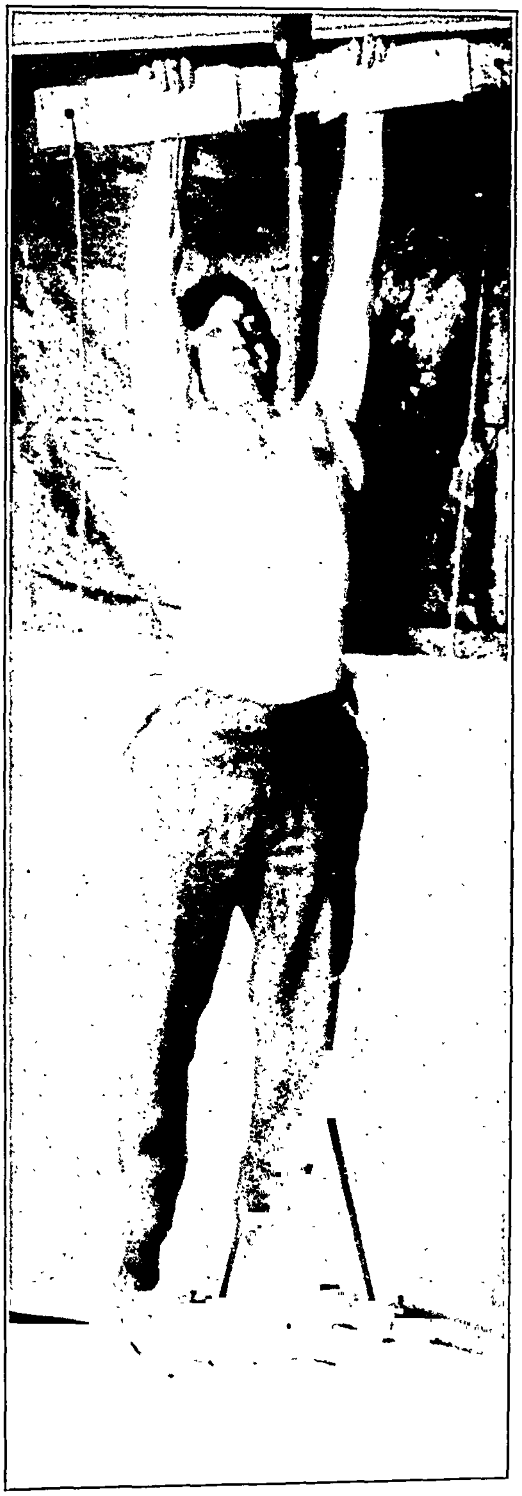

Fig. 3.—Patient 2 sixteen weeks after operation. Weight of whole body hanging from hands. Left foot does not touch the floor. Movement forward of left scapula shows that abduction is still resisted by the contracted capsule.

The ability of the repaired shoulder to withstand dislocation from such a force goes far toward proving that, after a proper shortening of the relaxed capsule, the injured joint becomes practically as strong as the normal one; and the fact that the patient considers the shoulder operated on the better of the two would seem to show that the function of the shoulder is normal or nearly so. I saw him Oct. 27, 1909, and could find no impairment of motion on examination.

Case 2.—*History.*—The patient, a man aged 26, hospital orderly, received his first dislocation in a baseball game, in May, 1904. While sliding to a base with his left arm in extreme abduction before him, the baseman stepped on this shoulder, producing an anterior dislocation. It was reduced soon afterward and the arm bound to the side of the body by a bandage for at least a month. From that time the bandages were removed about twice a week for massage, but replaced each time and the arm kept immovable at the side of the body for about three and one-half months altogether. He did no work for about a year, after which he drove a wagon for about five months. He then dislocated the shoulder while lifting himself up to the wagon with the hand of the affected side raised above his head. This was about a year and a half after the first dislocation. A month or two later he had a recurrence while asleep in bed, and a fourth dislocation a few months later. The pain was severe in every dislocation, but always disappeared in a few days, when the patient could use his arm freely again. On July 2, 1906, the shoulder was operated on for the purpose of shortening the capsule. The scar of this incision extends from about the middle of the clavicle downward along the anterior border of the deltoid. Healing by first intention occurred. According to the patient, whose memory was shown to be very defective on some points, the arm was bound to the side of the body for only three or four days after the operation, and only a bandage to keep the dressing in place applied. He remained in the hospital about six weeks and did not work again for two years. He became a hospital orderly June 18, 1908. A short time before Thanksgiving day of the same year, while going upstairs, he slipped and when falling grasped the banister with the left hand and sustained a recurrence of the dislocation. After reduction he kept the arm bound to the side of the body for two weeks, when he returned to his duties as hospital orderly. On Jan. 7, 1909, he sustained another dislocation while asleep in bed, and the arm was kept bound to the side of the body for three weeks after reduction. On March 26, 1909, he underwent a second operation for the shortening of the capsule, the incision being made in the axilla. Healing occurred by first intention. The arm was bound to the side of the body for nine days. About six weeks after operation while raising the arm above his head to remove a blanket from a high shelf, the dislocation recurred.

*Operation.*—On June 16, 1909, I performed the third operation at the Philadelphia Hospital, in the service of Dr. A. C. Wood, to whom I am indebted for the privilege of operating on the patient and reporting the case. Under ether anesthesia the dislocation was first produced to demonstrate that the causal condition still existed. The arm was placed at right angles to the body, and the scar of the last operation excised. The coracobrachialis and short head of the biceps were exposed up to the coracoid process. The cicatricial tissue from the last operation made dissection somewhat tedious. The inner edge of the coracobrachialis was used as a guide in deepening the wound. The tendinous insertion of the latissimus dorsi was next sought as a guide. The circumflex nerve and posterior circumflex vessels, which pass backward around the neck of the humerus at the upper end of this tendon, usually easily exposed, were not looked for as they were embedded in cicatricial tissue. The subscapularis muscle, which, in my previous operations was easily exposed and recognized, in this case was found only after some search. Evidently the divided ends had not united closely after the last operation, or had separated later. The inner was found easily and was of fair thickness. The outer or humeral end, found after some dissection, was fibrous and scanty. The anterior and lower part of the capsule was now exposed from the humeral to the glenoid attachments. This portion of the capsule was distinctly relaxed and the dislocation could be easily produced and reduced. An opening, about 2 inches long, was made in the capsule by the knife, about half an inch below and parallel to the glenoid margin. The capsule seemed to be of substantial thickness throughout. Two mattress sutures of chromicized catgut, No. 3, were then introduced with some difficulty and when they were tied the lower edge of the capsule was drawn tightly upward underneath the upper flap. The lower edge of the upper flap was then drawn down over the lower by two single sutures. The ends of the divided but rather scanty subscapularis were then sutured together with catgut. A small rubber drainage-tube was introduced to the lower edge of this muscle and the superficial wound closed with silkworm-gut. A dressing was then applied and the arm bound to the side of the body by a Velpeau bandage.

*Postoperative History.*—On the day following operation the patient developed an epididymitis, which, he says, came on after the last operation, but a few days later than after this operation. It subsided in a few days in both instances. It was soon evident that there was some infection in the wound. The temperature reached 102 4/5 on the third day, and subsided to normal on the fourteenth day. On the nineteenth day a catgut suture escaped in the dressing, after which the discharge rapidly ceased. The suture was in the form of a loop about a quarter of an inch in diameter and the knot was intact. From the size of the loop, and the size and color of the catgut, it was evidently one of the sutures placed in the capsule or in the subscapularis muscle. It was probably a capsule suture, and, because of my anxiety to sufficiently shorten the capsule, had included too much tissue and had been tied under too much tension. Five weeks after operation the patient returned to his work as a hospital orderly. The arm could then be brought from the side of the body to an angle of about 45 degrees. There was about the same range of movement backward and forward and some rotation. From this time on the patient was advised to use as much force as he could stand in dragging the arm in the direction of abduction, as in hanging by both hands from a horizontal bar or from an upright pole. He did not have the assistance of a skilled masseur, as did my other two patients. The increase in function in the shoulder has been slow but steady, and very encouraging to the patient. I do not doubt that the cicatricial tissue at the site of the repair of the capsule will continue to yield until the capsule is of the normal length and the motion of the joint is normal. On October 8 the patient was able by hanging from his hands, to attain the degree of abduction illustrated in Figure 3.

I had little or no fear for the integrity of the joint from the infection which developed in this case. It was probably more a strangulation necrosis from one of the sutures in the capsule or subscapulous muscle than a serious infection, and with dependent drainage was well under control from the beginning. There was no danger from retention in the joint, since the operative wound extended directly downward from the joint, so that any discharge had a free and easy outlet. In those cases, as in Wiesinger's and in Hildebrand's two cases, in which the wound was left open and tamponed up to the opening in the joint which was not closed, the final results were good. Hildebrand, in addition, deepened the glenoid cavity with a sharp curette and flattened off the outer margins with a chisel. Mikulicz overlapped the capsule with silver sutures and packed the wound, which closed in three weeks. With the exception of my cases, in all those which have been reported the incisions have been made in the upper part of the shoulder, and were frequently drained, so that there must have been more or less retention of discharge in the wound and exposure of the joint to the risk of infection. The good results which were reported in all cases would indicate that the risks of infection of the shoulder-joint are overestimated.

CASE 3.—*History.*—This patient was referred to me by Dr. E. Eliason. He was a young man, aged 21, and had sustained a dislocation of the left shoulder about five years ago, from a fall in an epileptic attack. After this dislocation the arm was bound to the body for two weeks. He has had twelve dislocations altogether, most of them in epileptic attacks, but some from such causes as throwing up the arm to scare away a cat, falling out of a chair, and being pulled on the arm by another person. Dislocations had occurred during convulsions in bed. The patient suffered considerable pain for some days after each dislocation, and usually found it necessary to take a general anesthetic for the reduction. The fear of a recurrence of the dislocation would not permit him to engage in sports and games of which he is fond. He could raise the arm above his head, but he did it with caution. The last dislocation occurred about the middle of September and since then he had been binding his arm to the side of the body at night to prevent the recurrences.

*Operation.*—This was performed at the University Hospital, Oct. 16, 1909, with the assistance of Dr. Eliason. The incision was made along the coracobrachialis muscle and was carried into the vault of the axilla under the pectoralis major and slightly downwards along the side of the chest. It was about 5 inches long. The operation was essentially the same as in the other cases, and as in them strong retraction was necessary on the outer side of the wound throughout the operation. On the inner side much less force was necessary. The musculocutaneous nerve entered the coracobrachialis muscle a little higher than in the previous cases and did not retract as

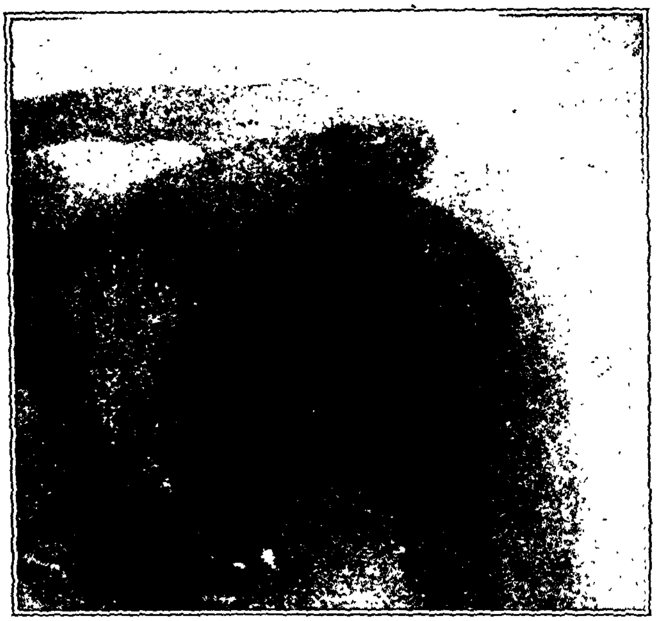

Fig. 4.—Patient 3; right shoulder normal. Compare roundness of normal humeral head with notch in Figure 5.

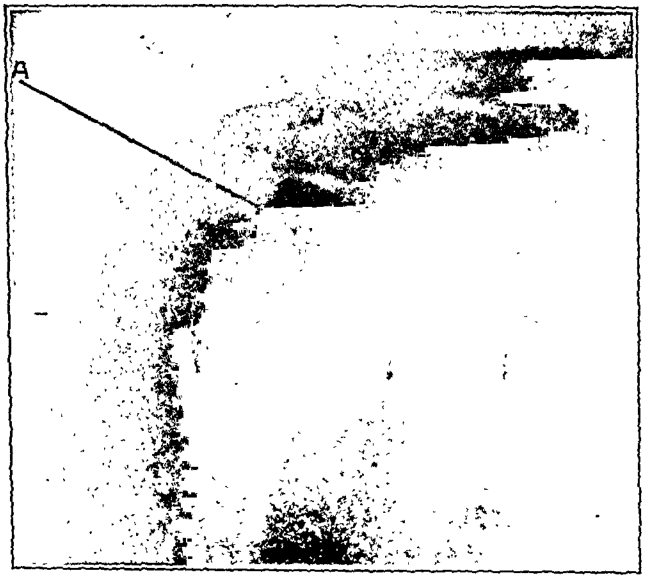

Fig. 5.—Patient 3: left shoulder recurrently dislocated; *a*, defect in cartilaginous surface of humeral head, frequently found in recurrent dislocations of shoulder, sometimes involves a third of head, and in dislocated position rests on anterior margin of glenoid cavity.

readily. The greater part of the subscapularis muscle was divided. The capsule in the upper part of the exposed portion was so thin that the cartilage of the humeral head could be seen through it. It was most relaxed in its lower portion. The defect in the cartilaginous surface of the head (Figs. 4 and 5) could not be palpated as the finger could not be made to pass to that portion, the head being held close to the glenoid process of the scapula by the surrounding muscles. A small foreign body which had evidently escaped from the joint was found in the wound. It was probably derived from that portion of the humeral head showing the defect. The capsule could not be overlapped, but the edge of the lower thicker portion was brought up *underneath* the upper thinner portion by two No. 3 chromicized catgut sutures, and the capsule thus shortened. The margins of the divided subscapularis were reunited by a continuous catgut suture, a small drainage-tube introduced to the lower margin of this muscle, and the skin margins united by silkworm-gut sutures. A gauze dressing was applied and the arm bandaged in the Velpeau position.

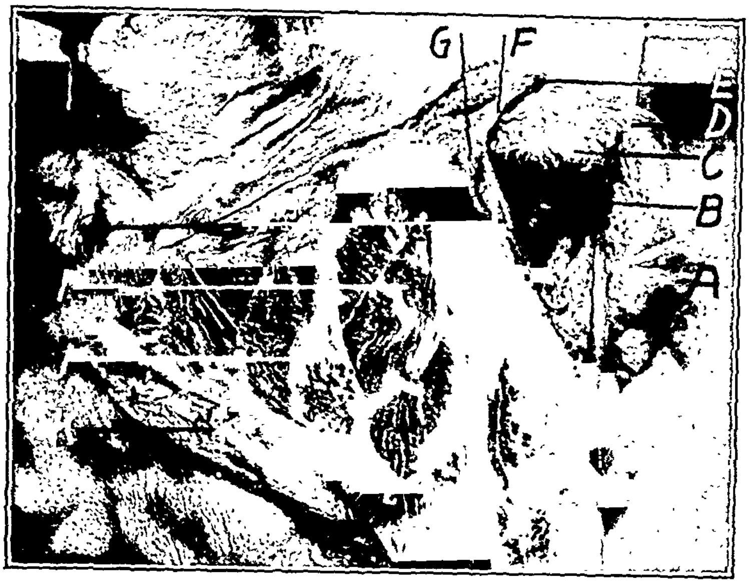

Fig. 6.—Dissected specimen, left shoulder; arm in extreme external rotation; *a*, reflected humeral end of pectoralis major; *b*, long head of biceps; *c*, lesser tuberosity of humerus; *d*, reflected deltoid; *e*, acromion; *f*, coraco-acromial ligament; *g*, coracoid process; *h*, short head of biceps and coracobrachialis muscles; *i*, pectoralis minor; *j*, reflected clavicular and sternal portions of pectoralis major; *k*, reflected skin and fascia.

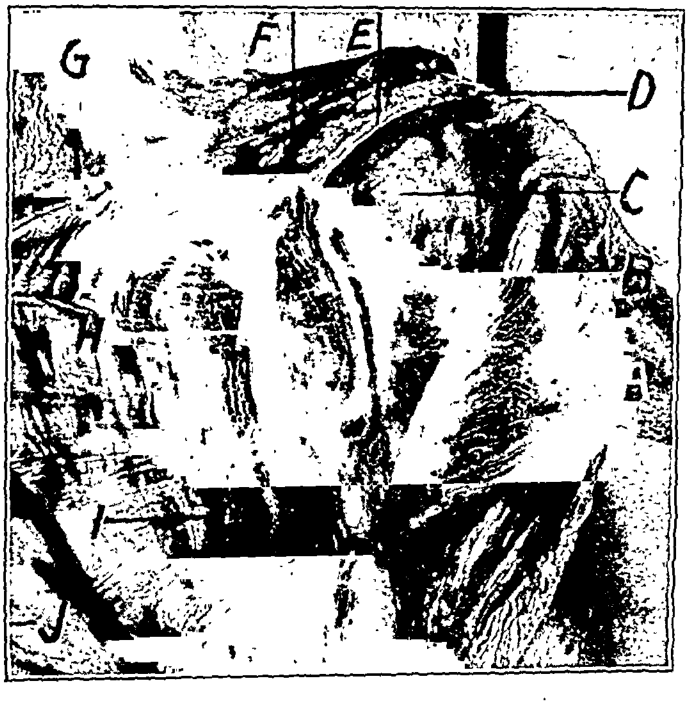

Fig. 7.—Same specimen as in Figure 6; extreme internal rotation; *a*, reflected deltoid; *b*, long head of biceps; *c*, greater tuberosity; *d*, tip of acromion process; *e*, coraco-acromial ligament; *f*, coracoid process; *g*, clavicle; *h*, short head of biceps and coracobrachialis muscles; *i*, clavicular and sternal portions of divided pectoralis major; *j*, reflected fascia and skin. The lesser tuberosity of the humerus, which is internal to the long head of biceps (compare with Figure 6) is concealed under the coracoid process and coraco-acromial ligament.

*Postoperative History.*—The drainage-tube was removed on the second day. The patient complained of much pain in the shoulder and down to the wrist on the first two days. On the third day it had largely subsided, and on the fourth day had practically disappeared. Healing occurred by first intention. The skin ruptures were removed on the fifth day and the patient left the hospital on the seventh day. The arm will be bound to the body until the end of the second week. Eleven days after operation, he has abduction to about 60 degrees, rotation is almost complete, and he has all the movements of the forearm, although, of course, they are weak. (This patient had full motion in six weeks, and since then an epileptic attack, but has had no dislocation since the operation.)

The first patient on whom I operated and whose case I reported in my first paper has been at work continuously since the first report, has been active in gymnasium and other athletic work, and has engaged in several semipublic boxing contests. He has had no recurrence of the dislocation, and feels that the shoulder operated on is as strong and the motion as good as ever.

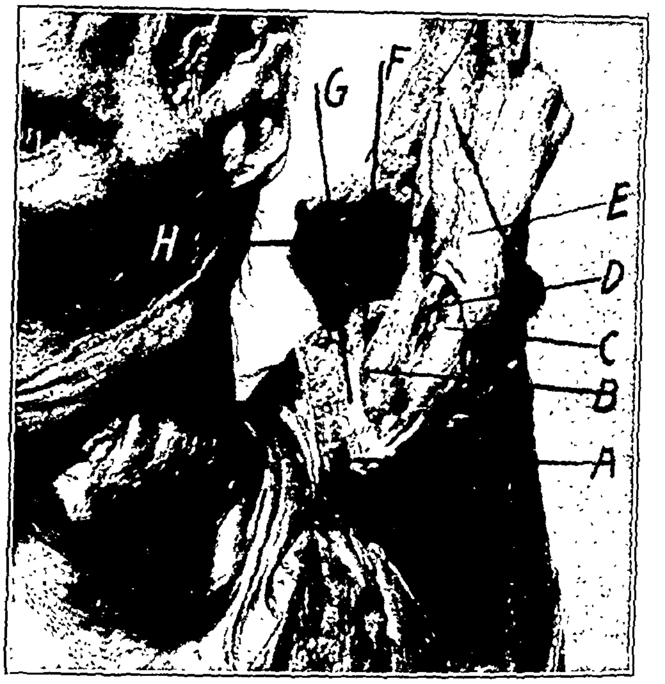

Fig. 8.—Same specimen as in Figures 6 and 7; arm in extreme abduction; *a*, coracoid process; *b*, lower portion of greater tuberosity; upper portion is under acromion; *c*, short head of biceps and coracobrachialis; *d*, long head of biceps; *e*, humeral end of divided pectoralis major; *f*, acromion process; *g*, coraco-acromial ligament; *h*, reflected deltoid. Between the outer surface of the surgical neck of the humerus and the edge of the acromion can be seen a portion of the space still intervening between the two.

While the four cases in which I have performed the capsule operation represent a small experience, there is only one other operator who has had as many.* Perthes contracted the capsule in four cases, while Francke did it in three, and excised the head of the humerus in one, an operation which has been *practically abandoned.* I am very much interested in the variation in progress of function in my first three cases. It required six weeks to get the arms straight above the head in the first case, about eight or nine weeks in the second, and about fifteen weeks in the third. The problem is clearly one of technic. In the first case the margins of the original tear in the capsule were found and sutured edge to edge, some shortening resulting from the old shriveling of the upper portion and the effect of the sutures. The slight stretching necessary later was more easily accomplished than in the second case, in which the edges of the opening in the capsule were overlapped and the shortening probably slightly greater. The inflammation which followed in the third case, and the anxiety to shorten the capsule and thus to prevent the recurrences which followed the two previous operations, delayed the period at which forcible movements of the joint could be begun and rendered them less effective. Infection should not occur more frequently in this than in any other clean operation.

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* Since the reading of this paper I have operated in four new cases, in the service of Prof. J. William White, at the University Hospital. In three there was healing by first intention, and in one slight infection. In one case there was practically full motion in four weeks, at the end of which time the patient began to take up swimming exercises. In the second case, in which operation was done five weeks ago, motion is almost normal. The third patient, operated on two weeks ago, had abduction to a right angle, while the fourth was operated on only a week ago and has not begun to use the arm. The patient operated on five weeks ago has had several epileptic attacks since obtaining free use of his arm.

Goldthwait in a recent paper[4] explained the recurrent dislocations of the shoulder by certain peculiarities in the bony anatomy of the shoulder. He says that normally the lesser tuberosity of the humerus, when the arm hangs at the side of the body, is opposite or rests against the coracoid process. This process may be especially long, so that the forward movement of the arm is limited by impingement of the lesser tuberosity against it. If the force is sufficient, the head of the humerus may be lifted out of the glenoid cavity, the coracoid acting as a fulcrum. In like manner the acromion may be longer than normal, so that when the arm is raised above the head in extreme abduction, the greater tuberosity of the humerus impinges against the edge of the acromion process, and, if the force is strong enough, the head of the humerus is again forced out of the glenoid cavity, a true dislocation taking place. Drooped or stooped shoulder accentuates these peculiarities.

If these anatomic peculiarities are marked, Goldthwait says, it is easy to understand the ease with which a dislocation takes place, even if no great violence has been a factor in its production. He does not cite a case in which the recurrent dislocations developed without the occurrence of a first traumatic dislocation. The inference is that from the influence of stooped shoulder and long coracoid or acromion processes, the impingement of the tuberosities of the humerus leads to a gradual relaxation of the capsule and the development of recurrent dislocations.

Of the 47 cases which I collected from the literature and reported in my first paper, in all of those in which the history covered this point, the recurrences were preceded by a first dislocation due to the application of considerable violence. In connection with none could it be inferred that the patient had suffered previously from any inconvenience in the affected shoulder, from which one might be justified in suspecting that there had been a preliminary relaxation of the capsule.

Goldthwait does not describe the experiments he performed on the cadaver, nor the method by which he reached his conclusions. One is led to infer that he took only the bones into consideration. I tried to confirm the work of Goldthwait on the cadaver, but employed a dissected specimen in which the bones, muscles and ligaments were left as far as possible in their normal relations. The deltoid was detached from the clavicle and acromion process and reflected backward so as to expose the structures it was necessary to observe. With the arm at the side of the body in the position of rest, the inner edge of the lesser tuberosity does not rest against the tip of the coracoid process, but is removed about three-fourths of an inch from it. In extreme external rotation it is about an inch and a half away (Fig. 6), and on extreme internal rotation the lesser tuberosity rolls easily under the tip of the coracoid. This is well illustrated in Figure 7. The lesser tuberosity is internal to the long head of the biceps which lies in the bicipital groove between the lesser and greater tuberosities. The greater, on the outer side of the long head of the biceps, can be seen in the illustration, but the lesser tuberosity on its inner side cannot be seen because it is concealed under the coracoid process. By dragging the shoulder forward and downward an effort was made to simulate the position of stooped or drooped shoulder, which Goldthwait says favors the earlier impingement of the lesser tuberosity against the coracoid. In this position the relations between the two bones were not altered, the scapula and humerus moving together and maintaining the same relations to each other as in the erect position. The anterior surface of the coracoid process is covered over by the attachment of the coraco-acromial ligament up to the tip of the process, which is still further covered by the common tendon of the short head of the biceps and the coracobrachialis muscle, so that the lesser tuberosity could not come into direct contact with it. But the lesser tuberosity is also covered over by the subscapularis tendon, so that it presents no projecting edge which could impinge against the tip of the coracoid if that were not already masked by the ligament and muscles. Figures 6, 7 and 8 illustrate these points very well. The whole anatomic arrangement here is one calculated to compel the head of the humerus on internal rotation to glide under the coracoid process and to render impossible the impingement of one against the other.

Again, when the arm is raised above the head in extreme abduction, the greater tuberosity cannot be made to impinge against the edge of the acromion, but glides under it. Moreover, when the tuberosity passes under the acromion, and an attempt is made by extreme abduction to bring the outer surface of the humerus against the edge of the acromion, this is prevented by the resistance of the capsule and muscles below. Although the two bones come close together they do not strike. As the force is increased the scapula is rotated in such a manner that its lower angle moves outward and upward and its upper end, including the acromion process, moves inward and upward away from the approaching humerus. It seemed evident that before the two bony surfaces could be made to strike each other the tense lower part of the capsule must rupture. This would tend to confirm the conclusion which I had reached in my first work on this subject, that the essential lesion in a dislocation of the shoulder is a rupture of the capsule. These observations were confirmed on three other dissected bodies. The results also tend to show that frequent strains on the capsule from the impingement of these bony surfaces against each other do not occur, and that a preliminary relaxation from such a cause is impossible. As the result of my observations on the cadaver I believe that the mechanism of recurrent dislocations of the shoulder suggested by Goldthwait cannot be effective. I wish to acknowledge here, my indebtedness to Dr. G. G. Davis, associate professor of applied anatomy in the University of Pennsylvania, for the anatomic material employed and the freedom of his department.

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[4] Goldthwait: Am. Jour. Orthop. Surg., 1909, vi, 579.

About simultaneously with Goldthwait's paper appeared one by Clairmont and Ehrlich,[5] in which is offered a new operation for the cure of this condition. According to these writers, mechanical therapy has been a failure and operation very successful. They recognize the fact that, in all operations, the relaxed capsule was contracted; and after a critical examination of all the methods employed up to the present time, they conclude that this shortening of the capsule was the only cause of success. They object to these operations, however, because of the large wound necessary and the exposure of the joint. They believe that the real cause of the recurrences is a lack of coordination of antagonistic muscles, particularly because the dislocations result from simple muscular contraction and not from severe trauma. Since, in the intervals between the recurrences, the joint functionates normally, they feel justified in leaving out of account the pathologic lesions present and in combating only the causal force, the abnormal muscular contraction on the axillary side of the joint. They conceived and put into effect by operation, in two cases, the idea of furnishing a resistance to this abnormal force, by transplanting a muscular flap taken from the posterior portion of the deltoid. This flap was made to encircle the posterior and outer surface of the surgical neck of the humerus as a sling and was attached to the der surface of the anterior portion of the deltoid. is antagonist is relaxed when the humerus is at rest and does not hinder its movement. On elevation of the arm it contracts simultaneously with the rest of the deltoid and, by pulling the proximal end of the humerus outward and upward, hinders the occurrence of the dislocation. Three months after operation in one case and two months in the other no recurrence of the dislocation had taken place and there were free movements in the shoulder-joint.

The chief advantage claimed for this operation is that it is a simple one. Compared to some of the operations which have been done, particularly those by Perthes, it may be. It requires two incisions, the anterior 8 cm. long, going through the upper portion of the deltoid, the posterior extending from the spine of the scapula downward to the insertion of the deltoid in the middle of the humerus. Half of the pectoralis major tendon is divided, but is later repaired by sutures. The teres major and latissimus dorsi tendons are divided to the same extent and are not repaired later. The two heads of the biceps are separated to make a part of the passageway for the transplanted flap. The external head of the triceps is divided obliquely for 1 to 2 cm. and is not repaired. The finding and dividing of the teres major is said to be difficult and to expose the circumflex nerve to considerable risk of division, while the conducting of the muscular flap through the passageway made for it gave some trouble. In the second case it would not reach as far as desired because of its contraction. The fact that the two patients operated on had free movements in the joint and that the condition had not recurred three and two months after operation, respectively, is not reassuring. After the operation of contracting the capsule, the patients have been able to take up gymnastic exercises, such as swinging from horizontal bars, climbing, swinging a heavy hammer, etc. It is doubtful if the small transplanted flap would long resist such forces, in view of the presence of the relaxed capsule, the contraction of which, it is admitted, produced the cure in all the other reported cases.

Clairmont and Ehrlich maintain that the contraction of the capsule is not a physiologic operation, since in the normal joint the capsule is so lax that it offers no hindrance to the free movements of the humeral head; so that it would be difficult at the time of operation to determine how much of the relaxation was normal and how much pathologic. While the normal capsule offers no hindrance to the free normal movements, it offers a very decided resistance to movement beyond the normal in every direction. When the arm is hanging down at the side of the body, the upper part of the capsule is tense, because that is the limit of movement in that direction. When the arm is elevated to its limit the lower part of the capsule is tense. In a similar manner the posterior capsule is tense on extreme anterior movement and the anterior portion on extreme posterior movement. When any part of the capsule is thus put under tension it becomes a very positive factor in holding the bony articulating surfaces snugly together. The corresponding muscles also take part in resisting the extremes of movement, but their resistance is probably not so rigid as that of the capsule. All parts of the capsule can be equally lax only in the midposition, i. e., with the arm directed outward at right angles with the body, without rotation. Since the normal capsule is tense below and anteriorly in extreme abduction of the arm, if during the operation the relaxed capsule could be made tense by the suture with the arm in this position, it would then be of the normal length. But it is difficult to retract the edges of the wound in that position.

In my last case I made the capsule tense by sutures with the arm at about a right angle with the body, and at the present time, eleven days after operation, the patient can abduct the arm to about an angle of 60 degrees. The ease with which he can do this promises a more rapid return of full motion than in any of the other cases. In order to guard against the recurrences of the dislocation which is the chief object of the operation, the capsule should always be made shorter than normal, and should be stretched to the normal by forced exercises later. Only repeated movements beyond the normal will overstretch the capsule. Sudden and severe violence would not stretch but tear the capsule, when a new dislocation would probably take place.

In the treatment of recurrent dislocations, in my opinion, a sufficient shortening of the relaxed portion of the capsule will result in a cure every time. It is not held that this cannot occur without operation. I have already reported a case in which the dislocations ceased to occur twenty years ago, while the first was received in a fall forty years ago. A similar case has been seen since and another heard of. In the two which have been seen and examined there is still in each a sense of weakness when the arm is in abduction, which movement is made with caution. There is in both cases a distinct inclination to avoid this movement and especially to avoid any severe muscular exertion while the arm is in this position, indicating an uncomfortable sense of insecurity and the possibility of recurrence. In the first of these two cases, the recurrences took place at intervals of about two years, and in the second, in which both shoulders were involved, when the dislocations took place they gave little trouble and the bones usually slipped back into place almost immediately, indicating in this case probably a smaller rent in the capsule than usual and, therefore, less than the usual relaxation. It is easily conceivable that during long intervals between the recurrences with the arm at the side of the body and the elongated portion of the capsule in the position of most complete relaxation, just enough contraction of the cicatricial tissue about the torn capsule occurred to prevent a dislocation when the arm is raised in abduction and no violence is applied to the arm. This explanation of these rare spontaneous cures is the more plausible when we take into consideration the fact that the elongation of the capsule at the site of the original tear is probably never more than an inch. In a few of the reported cases we are informed how large a piece of the capsule was removed for the purpose of shortening it. In only one case (Stimson) was it as wide as an inch, and in others it was about 1 cm., half an inch, three-quarters of an inch, etc. This agrees with my experience in my last three cases, while in the first no observations were made on this point.

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[5] Clairmont and Ehrlich: Arch. f. klin. Chir., 1909, lxxxix, 798.

The chief difficulty with the spontaneous cures and with the non-operative methods of treatment is that they succeed too rarely and the cures are too uncertain. Goldthwait has seen a number of these recurrent dislocations, but reports only one cure by his method of treatment. Of this one he says:

> In one very obstinate case which the writer has seen, in which nothing short of an extensive operation seemed to promise relief, the effect of position was tried (erect position of shoulders) and with six months of use of a brace to maintain this position no further trouble has occurred in two years of free use of the arm, while previous to the change in the position of the shoulders the dislocation frequently followed very slight movements, such as raising of the arm or the putting on of the coat.

I have found nothing in the literature to show that shoulders cured would withstand severe tests. In three months after operation or less I have given my patients full permission to undertake climbing or any gymnastic exercises, swimming, etc., and to forget so far as the still atrophied muscles will permit, that they ever had had dislocations. The overlapped capsule at the site of the original tear is in all probability, at the end of three months, as strong as the original capsule and is backed up by the cicatricial tissue around it. The headlong fall of seventeen feet which my second patient sustained without a recurrence of the dislocation goes far toward proving this statement. I feel that one is justified in promising a positive cure by operation, which cannot be sincerely said of any non-operative method of treatment.

There is a feature that deserves mention connected with those cases in which the intervals between the recurrences are long and the patient is hopeful that each one will be the last. Almost all these patients are seized with a feeling of panic when they realize that the arm is passing to the abducted position. The result is that they soon learn that their only safety is in keeping the arm at the side of the body, which makes cripples of them.

My second patient, because of this fear, had given up all work, although he was a poor man, a coal-miner. Another patient, who refused operation, has been having recurrences about every two or three years, and is now hopeful that he will have no more. Yet the dread of abduction of the arm was so great that he turned his face away when the first patient on whom I operated attempted to demonstrate his freedom of movement and confidence in the shoulder operated on. This man is healthy and aged about 35, and without operation will be thus crippled throughout the rest of his life. One is surely justified in advising operation under these circumstances. There have been no deaths or ankyloses of the shoulder reported and there should be none.

The operation is done in a clean field, with a simple straight incision, 4 to 6 inches long, and involves merely the placing of a few sutures in the exposed capsule for the contraction of the relaxed portion. The best possible drainage of the field of operation is afforded. The shortened capsule will later elongate to the normal from traction by forced abduction and full function will return. There is much less danger associated with this operation than with the wiring of a fractured patella, since in the latter operation the tissues are severely traumatized, and if infection occurs the joint is in greater danger because of its large extent, its numerous pouches and the absence of good drainage. Moreover, without operation, there is practically no hope of obtaining a normal shoulder, when recurrences have once become established. There should also be less danger than in an appendicitis operation or the radical cure of an inguinal hernia, because of the larger serous cavity exposed to infection and the greater possibilities of a hernia following the latter operations.

## CONCLUSIONS

The pathology of recurrent dislocations of the shoulder is essentially the same as that of the original traumatic dislocation. The margins of the tear in the capsule which permitted the first dislocation were prevented from uniting firmly and closely and were again separated by each recurring luxation, so that finally they united by a cicatricial portion of capsule bridging the gap between the margins. The resistance to dislocation offered by the normal capsule is lacking just as much in every recurrence as immediately after the first dislocation.

The first of the two cases here reported tends to prove that the capsule after operation may be practically as strong as before the first dislocation. The second case shows that failure of the operation to cure should not be charged to the operation itself, but to a defect in the method.

Peculiarities in the bony anatomy of the shoulder, as suggested by Goldthwait, do not explain the recurrences, and more certainly do not account for the original dislocation. The operation proposed by Clairmont and Ehrlich is much more severe than a capsulorrhaphy need be, does not remove the cause, and gives a joint much less secure with more impairment of function than follows a capsulorrhaphy.

Cessation of the recurrences may follow non-operative methods of treatment or may occur spontaneously; but such cases are rare, uncertain in their occurrence, and leave shoulders which are functionally very unreliable. After capsulorrhaphy by overlapping the edges of the opening in the capsule, the joint becomes practically normal.

In my judgment, this operation should be regarded as less dangerous to life and to the part operated on and more successful in avoiding or preventing later troublesome sequelæ, than the operations for appendicitis and inguinal hernia, and should be regarded as much safer than the operation for the wiring of a fractured patella.

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# THE OFFICE OF CORONER

## ITS PAST, ITS PRESENT, AND THE ADVISABILITY OF ITS ABOLISHMENT IN THE COMMONWEALTH OF MISSOURI *

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The actual date of the origin of the office of coroner is lost in the mists of antiquity. Some authorities state that it existed at the time of King Alfred (871-910). At all events the office, so named from *corona,* because the coroner is an officer of the crown who kept some of the pleas of the crown, was founded in England and still exists in all parts of the British Empire as well as in the United States. In Scotland the corresponding duties are carried out by the procurator fiscal. The primary object of the coroner's office in England appears to have been to keep watch over the profits of the crown, to inquire concerning treasure trove, wreck, whale and sturgeon and to secure them for the king's use. His later function, namely, to conduct an inquest in cases of sudden death, had a similar purpose—to see that the crown was not deprived of its emoluments arising from the forfeiture of the chattels of felons and outlaws. Originally, it was the concern of the coroner to bring the goods of the felon to the king for his use rather than to bring the felon himself to justice.

Anciently, it was also the duty of the coroner to take the confession and abjuration of felons. He also held inquests on prison-breach, arson and housebreaking.

While the office was practically created for but one definite purpose, namely, the safeguarding of the property of the crown, through the march of ages this purpose has been slowly minimized, and we now see another function almost completely usurping it, i. e., the investigation and determination of the cause of death of individuals dying by their own hand, by some one else's hand, by official execution or through the multitudinous channels designated "accidents."

Such were the duties of the coroner in England in bygone days. They are now limited in that country, in accordance with the coroner's act (1887, S. 3), to an inquiry on "the dead body of a person lying within his jurisdiction" as to how, when, where and by what means the deceased came by his or her death, in cases in which "there is reasonable cause to suspect that such persons have died a violent or an unnatural death, or died a sudden death of which the cause is unknown, or that such person has died in prison, or in such place under such circumstances as to require an inquest in pursuance of any capital act, and on treasure trove."

### THE OFFICE IN ENGLAND AT THE PRESENT TIME

In England at the present time there are three kinds of coroner. First are the coroners *virtute officii:* (a) the Lord Chief Justice of the King's bench who, by virtue of his office, is the chief or supreme coroner of England; (b) the Puisne Judges of the King's bench, who are sovereign coroners. Second are coroners by *virtute cartæ sive commissionis.* These are coroners appointed by the king, coroners of the verge, and the precincts of the palace, and are those who exercise their jurisdiction within the precincts of the king's palace.

The admiralty has power to appoint coroners within its jurisdiction, usually the judge marshal of the admiralty and, *pro hac vice,* his deputy. This jurisdiction was anciently confined to matters arising on a high sea. The jurisdiction of admiralty extends to matters now arising on the open sea between the high- and low-water mark when the tide is in, but when the tide is out the authority of the county coroner obtains in such places. The coroners *virtute electionis* are the (a) county coroner and (b) borough coroners. In other words, in England there are four classes of coroners—official coroners (Lord Chief Justice of England and the judges of the High Court of Justice being *ex officio* sovereign coroners), franchise coroners, borough coroners and county coroners. In America, statutory provisions generally provide that the coroner shall be elected by the voters of the county, though in some states they are appointed for counties.

It can thus be seen that the office of coroner, ancient and honorable though it may be, now seems cumbersome and obsolete, viewed in the light of the modern specialization and systematization of human endeavor. Here we have the spectacle of an officer exercising two functions of widely separate character, judicial and ministerial. The *British Medical Journal*[16] recently commented on the curious extent of the jurisdiction of the ancient office of coroner afforded by an inquiry held in August, 1909, at Yeovil. The proceedings, which took place under an act of Henry III, were to determine what a certain gold ornament found was and by whom it was found; the jury solemnly decided that the article was an ancient British torque, that it was found by Henry Coles, and that the owner was unknown. To whom the torque belongs will have to be determined by the higher court. This shows that even at this time coroners are still exercising in England some of their ancient prerogatives.

### CORONER'S OFFICE IN AMERICA

The coroner's office was brought to America by the colonizers of New England. It existed throughout colonial times and after the revolution of 1776 and the formation of the constitution of the various states, it was incorporated into laws, or else was spoken of explicitly in the constitution from the various states. Dr. Cattell, in a paper read before the Philadelphia Medical Jurisprudence Society, Oct. 19, 1908, entitled "The Coroner's Office at Philadelphia: Its Past and Future," stated that the coroner's office coexisted with the arrival of Penn on the banks of the Delaware. An early case recorded is that of Benjamin Acrod, in 1683, on whose body a coroner's inquest was held. The jury found that "he killed himself by drinks." Suicides at that time who were possessed of goods might have these, in part or whole, claimed by the governor. In this case, however, Penn relinquished any claims that he might have to the goods, and an administrator of the estate was appointed.

With one or two exceptions which will be spoken of later, the coroner's office exists in all the different states of the Union. The duties of the office are mainly the investigation of the cause of sudden and violent death, yet the incumbent still performs as a ministerial officer the duties of a sheriff when that officer is incapacitated. The privileges and liabilities of a coroner as a judicial officer are determined by the status of the coroner's court; thus in England, where a coroner's court is a court of record, the privileges, immunities and liabilities are those ordinarily belonging to judges of courts of record. No action lies against him for any matter done by him in the exercise of his judicial functions. In the United States this court is a court of inferior jurisdiction, and not of record, and the coroner's privileges are correspondingly abridged and his liabilities are extended. In his ministerial capacity, his privileges and liabilities are those of a sheriff, whose substitute he is.

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* Read before the St. Louis Medicolegal Society, Nov. 12, 1909.

* Because of the limitations of space, the article is here abbreviated by the abridgement of the historical portion. The complete article appears in the author's reprints.

[16] Aug. 21, 1909.

Thus we have at present an officer known as a coroner, created by statute or constitution, a quasi-magistrate, a conservator of the peace throughout his county, holding inquests in sudden deaths, issuing subpoenas, administering oaths to jurors, acting as marshal or sheriff when such officers cannot act, conducting post-mortem examinations himself or designating some other person to do so, making chemical and microscopic examinations of parts of the bodies of deceased individuals, or causing some one else equally skilled or unskilled, as the case may be, to do the same; in short, performing the duties of judge, advocate, physician, pathologist, bacteriologist, toxicologist! The system is absurd on the face of it. Since the time of Erasmus, we have had no pantologists; therefore it is easy to understand that the incumbent of this office is never qualified to perform all the duties for which he is elected by the people and charged by the constitution of the state to carry out.

Out of this weird jumble of duties, there stand out two functions which to-day represent the work which the coroner has mapped out for him on his induction into office:

First, he must make inquiries directed to show whether or not certain individuals came to their death from causes other than disease, and, if so, in what manner the violence causing the injuries resulting in death was operative.

Second, he must go through with procedures directed to the discovery, apprehension, examination and possible indictment of the person or persons by whom the violence has been committed.

It requires but a casual observation to perceive that these are two widely separated fields of activity and that they each call for a special kind of qualification: the first inquiry demands naturally a degree of medical knowledge usually possessed only by those who have been especially trained in that department of medicine called pathologic anatomy, in its broadest sense, by which I mean expertness in gross pathology, histology and bacteriology, coupled with a good general fund of medical information. The second inquiry demands a capacity to deal directly with the administration of justice with the object in view of correlating medical evidence with ordinary evidence for the purpose of fixing legal responsibility in all cases coming before the coroner's tribunal. Logically, the second inquiry demands the services of a jurist to hear the facts properly presented by a qualified member of the bar.

### NEED OF SPECIALIZATION OF FUNCTIONS

While medicine and law have progressed slowly but surely far beyond the limits which existed at the time of the foundation of this office, the law, so far as it was represented in the primary creation and present existence of this office, apparently fails to recognize the need for specialization of the various functions of the office. For example, there is nothing in the statutes or constitution which demands that a county coroner should possess any kind of qualifications at all. It does not specifically state that he must be either a trained jurist or a trained pathologist, yet necessarily he cannot properly exercise the functions of his office in the absence of this double set of qualifications. In some places, mostly in the large cities, the multitude of cases which come before the coroner's court have so embarrassed him that he has in many instances delegated the medical side of his work to some physician or physicians. The legal phase of his activity is usually handled by the coroner himself or by one of his deputies. It is unnecessary for me to describe the laughable travesty on justice which is continually going on in coroner's courts because of the failure on the part of the presiding officer either to understand or to utilize the ordinary methods of court procedure.

This haphazard method has apparently gone on for years without any definite step having been taken to reform it, even though members of the bar have long since recognized the shortcomings of the system. In this day of specialization no one would dare to believe that any one individual ever possessed suitable qualifications to perform all the duties of the office of coroner. In spite of the absurdity of the situation created by human minds and hands, wherein some one is asked to do what is well-nigh impossible, but little action has been taken with a view to ameliorate the condition.

### MEDICAL EXAMINER SYSTEM OF MASSACHUSETTS

If we would have it otherwise, we will not have to look far for a system which, while insuring a high standard of skill and fairness in both medical and legal investigation, is simple, practical and economical. I allude to the system known as the medical examiner system of Massachusetts.

Strange to say, this system was created in 1877 synchronously with the abolishment of the office of coroner in the commonwealth of Massachusetts, not so much because a need was felt for separating the two widely different functions of the office, but because of certain flagrant abuses which prevailed among the incumbents of the office in Boston. These abuses became so extreme that the legislature, spurred on by the arguments presented by a young Boston attorney, Mr. T. H. Tyndale, at the present time an honored member of the Suffolk bar, passed the bills which were drafted by him and which are now known as the medical examiner laws of Massachusetts. With the enactment of these laws, Massachusetts both purged herself of abuses and created a logical system of medicolegal investigation that should serve as a model for all seekers after advanced, practical and fair methods of jurisprudence. The system there (and it might be added three other states of the Union, Michigan, Rhode Island and Connecticut, have followed the example of Massachusetts and enacted similar laws) divides the work between the medical examiner and the district attorney's office, aided by special officers of the police department. The laws creating the office of medical examiner provide for the appointment by the governor, with the advice and consent of the council, for a term of seven years, of able and discreet men, learned in the science of medicine, to be medical examiners and associate medical examiners in each county. The state is divided into districts, according to population. There are fourteen counties in the state, and these are subdivided into districts, according to population, the number of districts ranging from one, in the case of Nantucket, to ten, in the case of Essex and Middlesex. An examiner and associate examiner are appointed for each of these districts, with the exception of Suffolk, a county which is not divided, where two examiners and one associate are appointed. The total number of districts is, therefore, seventy-two, with an average to the county of about five. There are seventy-three examiners and seventy-two associates. Reappointment has been common, examiners and their associates serving repeatedly for one term after another. In Suffolk County the two examiners originally appointed served with distinction for four terms, a period of twenty-eight years. This statement will serve to show that in Massachusetts, in this instance at least, merit seems to have been placed above party politics.

The duties of the medical examiner consist primarily in the investigation of the deaths which have occurred within their districts of all persons who may be supposed to have died from violence, a term which has been accepted to mean "other than from disease." Under this heading would come:

1. Deaths from violence, wherein either from the circumstances of the death, from the appearance of the body, or from the nature of its surroundings, the supposed cause is reasonably manifest. Deaths of this order include: burns and scalds, crushing beneath falling bodies, cutting and stabbing, drowning (actual or apparent), elevator accident, explosion, falls, use of firearms, gas poisoning, hanging, and railroad accident.
2. Deaths supposedly by violence, wherein owing either to the nature of the cause or the circumstances of its operation the effects produced on the body are outwardly less manifest, and may be wholly disproportionate to the extent of the injury. Deaths of this order include: criminal abortion, blows or other forms of mechanical violence, electric shock, poisoning, starvation, strangulation, suffocation, and exposure.
3. Sudden deaths of persons not disabled by recognized disease, wherein, until the same is excluded by official medical inquiry, some mode of violence not immediately apparent may supposedly have been operative. Deaths of this order include those of persons who fall dead on the street or who die suddenly in public places, in their places of employment, or in their houses, without apparent cause. It includes deaths which may be supposed to be due to alcoholism.
4. Deaths under circumstances unknown, wherein there are no witnesses to the fact and where little or nothing may at the time be known concerning the deceased person. Deaths of this order include those of persons whose dead bodies are found in the open, in places of temporary lodgment or shelter, or in their homes, under circumstances largely or wholly negative, the cause of which cannot be properly stated without official medical inquiry.

It is provided in the statutes that the medical examiner may take charge of such cases, viewing and inquiring into the cause and manner of death; if he deems it necessary, on authority of the district attorney, mayor or selectmen of the district, in writing, he may make an autopsy in the presence of two or more discreet persons, whose attendance may be compelled by subpœna. Before making the autopsy he shall call the attention of the witnesses to the position and appearance of the body. He shall then and there make careful record of every fact and circumstance tending to show the condition of the body and the cause and manner of death, with names and addresses of witnesses, which record he shall subscribe. If necessary, the examiner may have a physician present, to whom shall be paid the sum of five dollars for his services. Other witnesses are allowed two dollars each.

The medical examiner is required to furnish the district attorney of his district a report of each autopsy and view and additional facts obtained. If as the result of his research he is of the opinion that death was the result of injuries caused by the act or negligence of the person other than the deceased, he shall notify not only the district attorney, but also a justice of the police, district or municipal court, or trial justice having jurisdiction over the place in which the body was found, and shall file an attested copy of his findings in this court and with the district attorney.

It is further provided that in every instance in which death occurs on a railroad or a street railway report shall be made of the case to the court as well as to the district attorney.

He is further required, for purposes of registration, to certify to the registration authorities the place of death and name and residence of the deceased, if known, otherwise a description of the body, together with a statement of the cause and manner of death. He is further required to transmit to the secretary of state certified copies of the records of all deaths, the cause of which he has investigated during the preceding calendar year. He is further required to make a view of every case intended for cremation.

He is required to take charge of all moneys and personal property of the deceased, found on or near the body, and deliver it to the person entitled to its custody or possession, or, if not claimed within sixty days, then to the public administrator.

He has full authority to employ a chemist to conduct toxicologic investigations to aid in the determination of the cause of death, likewise to employ a clerk to reduce to writing the results of medical examination and autopsies.

He is further required to deliver the body, after examination, on application, to the husband, or wife, or next of kin, or to any friend of the deceased, who shall be entitled to possession in the order of priority named, and if the body is unidentified or unclaimed for forty-eight hours after the examination, to deliver the same to the overseers of the poor of the city or town in which it is found, for burial.

Associate examiners serve only in the absence of the examiner and in case of the inability of the latter to perform his duties.

Medical examiners are paid on a fee basis in all counties and districts, except that of Suffolk, where they receive a regular yearly stipend of $4,000. The fee for a view of counties other than Suffolk is five dollars and thirty dollars for autopsy. There are also provisions for maintenance of an office, telephones, stenographer, etc.

The statutes provide that the magistrate of one of the courts mentioned shall conduct an inquest in all cases of accident, homicide, etc., wherein the state shall be represented by the district attorney or one of his assistants. This magistrate has the authority to bind over, as in criminal prosecutions, such witnesses as he considers necessary, or the district attorney may designate, to appear and testify at the court having jurisdiction over such crime. He naturally has authority to bind over accused persons to the grand jury.

In the City of Boston, County of Suffolk, the medical examiner has the cooperation of a special officer of the bureau of criminal investigation or police department. This officer looks up witnesses, reports and works out the cases with the medical examiner and the district attorney. The coroner's inquest is, therefore, completely eliminated and instead we have the case tried regularly before a magistrate presiding in a court of record. There are a number of special advantages in this method. One which is apparent is the fact that the magistrate only is required to hear a limited number of witnesses to war-

should be interested and should put their shoulders to the wheel in improving a condition which, to my mind, is a discredit to them. They have permitted the present system to prevail through ignorance, inertia and lack of appreciation of the chance for improvement in legal autopsy manipulations. Yet the profession to-day is active in endeavoring to increase the efficiency of all that is embodied in that department of medical endeavor called "state medicine." This movement properly is a part of state medicine and should receive their hearty endorsement. I need not remind them that every instance in which the findings of coroner's autopsy physicians have been successfully combated by opposing private experts is a direct slap in the face of professional honor.

Many of us have seen or have heard of failure of the state to prove the guilt of accused persons, who seemed to be practically convicted until examination and cross-examination of the state's most important witnesses, the coroner's autopsy physicians, showed that their work was inefficient and inconclusive, resulting in acquittal of possibly guilty people for want of convincing proof. Contrast these incidents in stages where the coroner system prevails to the history of medicolegal jurisprudence in Massachusetts, where since the time of the inauguration of the medical examiner system in 1877 to the present time that state has not in a single instance failed to support the truth of the findings of her examiners! This I offer as my last and, I trust, my most convincing argument to my medical friends as to the need of purging ourselves of the taint of the present slip-shod method of conducting autopsies in medicolegal cases.

I will leave to lawyers a discussion of the arguments as to why from a lawyer's standpoint the Massachusetts system ought to be superior to the coroner's system. I need only remind them that there is a distinct incompatibility in the twofold functions of the modern coroner's office. As Mr. Theodore H. Tyndale, in an address before the Massachusetts Medicolegal Society, once said:

> If it is now difficult in the vastness of modern research, to be familiar and skilled in all branches of medicine, if it is more than mortal man can compass to know all the science of the law, how then can it be possible that one man should be versed in both, and so well versed as to be expert witness in one, and judge in the other?
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> The qualities of mind called into exercise in the practice of the two professions are not only different and distinct, but indeed diametrically opposed to each other. "Science is armed with the microscope; Justice is blind." The scientific investigator himself seeks his facts and testifies to them. A judge never comes in personal contact with fact but receives them from others, and holds a balance between them. Who can undertake to do both—to be interested in the one and remain impartial in the other?

In conclusion, I wish to express my sense of appreciation to Dr. George B. Magrath, medical examiner for the County of Suffolk (Boston), Massachusetts, for helpful suggestions and for the opportunity of observing the systematic operation of his office; I also wish to credit Dr. R. Henslowe Wellington, deputy coroner for the County of Westminster, London, for much of my historical material which was borrowed from his admirable work, "The King's Coroner"; also Dr. Henry Cattell, of Philadelphia, for both personal and written communications.

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# SYPHILIS AND THE AMERICAN NEGRO

## A MEDICO-SOCIOLOGIC STUDY

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Any study of a disease as applied to an entire branch of a race must necessarily take up the sociology of that race. The knowledge of syphilis as affecting the Caucasian, however profound, will not give one an insight into the conditions confronting the negro, and the chief reason for attempting this paper is the lack of statistical material on the subject and the consequent general ignorance that exists in what might be called the white zones of our country.

About seven-eighths of the entire American negro race live in our Southern States, and the Southern man is a practical authority on the subject of conditions that oppose the black man's rise in the world. This knowledge is, however, of but little value to the world at large, because it is not down in black and white. This lack of statistics on the negro is at once a great harm and reproach to the South. It is a well-known fact that the most ardent of Northern theorists, after a sojourn of some time on Southern soil, becomes an advocate of the dealings of the Southern white man with the negro problem, and it is more than probable that half of the misrepresentations that the South has had to suffer would have never occurred had there been a proper system of vital statistics registration. More than this, in the proper cooperation with the national census bureau lies one of the greatest and most feasible of the means of settling the race question, for a white man is a white man, North or South—and knowledge is power. The census bureau has no figures that Europe will accept in vital statistics except an area known as the registration area. That area holds only 13.4 per cent. of the negro population, and no part of that area is south of the Ohio or Potomac rivers. Figures, however, cannot paint individuality, and, since the world ought to know Southern conditions, the Southern man and doctor must write, and that copiously.

The negroes of Richmond, Va., are of the highest type of the race in the South. Many of them are educated and property owners, men who are at the head of large banking and insurance institutions; successful ministers, teachers, physicians and lawyers. These men, though quite a respectable number, indicate a possibility rather than a promise. They are the triumphs of civilization in the individual and not a type of the possibilities, much less the probabilities, of the race.

To understand thoroughly what dissipation and disease has done for the negro, let us consider the terrible changes fifty years have wrought; let us consider, first, the negro of 1859, then the negro of 1909.

The negro of 1859 was not a free agent, and valuable only as a form of energy. He was a business proposition and, to get an interest on his investment, it was the business of his owner that this machine should be able to run at a proper potentiality. To this end the negro was not allowed to abuse his body, but, on the contrary, was made to preserve it. His cabin was well ventilated and his clothing was warm and sufficient. The food was plentiful and nourishing and his life was one of well-regulated sobriety. When sick, his master's own physician attended him and by a forced system of hygiene the negro's body, as a piece of property, was not allowed to deteriorate.

True, education was not encouraged, and everything tended to make the negro of that time a physical man. With as good hygiene, and less dissipation, he outstripped the white race in fecundity, for from 1800 to 1860 his increase was 346.1 per cent., while the white increase was 312.9 per cent. After 1808 this increase was a natural one, as the importation of slaves was made illegal at that time.

When the curse of slavery—for it was a curse—was removed from the white man's shoulders, misguided theorists transferred it, under the name of freedom, to the unready negro—and it crushed him. Whatever the motive that guided the pen which decreed absolute suffrage, it stands as one of the world's great tragedies, for now the negro was free, not to live but to die, and he took advantage of his freedom. He was free, indeed—free as the birds of the air—free to get drunk with cheap political whisky and to shiver in the cold because his scanty savings went to purchase flashy and flimsy garments—free never to bathe, and to sleep in hovels where God's sunlight and air could not penetrate—absolutely free to gratify his every sexual impulse: to be infected with every loathsome disease and to infect his ready and willing companions—and he did it—he did it all. The result is the negro of 1909, the negro of to-day.

He is, as a rule, but a sorry specimen, for disease and dissipation have done their work only too well. The insane asylums are overcrowded, for insanity has increased over 1,000 per cent. in fifty years. The death-rate has increased, being in the registration area 30.2 per cent., as compared to the white rate of 17.3 per cent.

In the Southern States a peculiar condition arose. When the birth-rate became a plaything of sexual impulse and this in a stalwart race, there was a large increase and one of the maximum increases in the negro race, as a whole, occurred between 1860 and 1880. These children, the product of this carnival, were degenerates as compared to their forbears, and their offspring have been barely over one-fourth as much as the decade preceding. This has brought the increase of the race down, so that the figures now stand as to increase of population from 1860 to 1900 in the Southern States—white, 134.9 per cent., negro 93.4 per cent.

Morality among these people is almost a joke and only assumed as a matter of convenience or when there is a lack of desire and opportunity for indulgence, and venereal diseases are well-nigh universal. As an illustration of this: In clinic and private practice I have never seen a negro virgin over 18 years of age. Consultations with old men in the profession have yielded only two undoubted cases. Of course, there are many more, but it is terrible to hear a man in active and steady practice for fifty years, practicing both in country and city, proclaim his experience to be the same as my own. In an investigation among negroes of all classes, the average age of defloration was found to be about 15, and these estimates are not unfair to the race, as a whole, for they are gained from experience with a part of the negro population that enjoy exceptional advantages for education and improvement.

Marriage is common among them and desertion as common. Due to the recent passage of laws making desertion a crime, we find the applications for legal divorce outnumbering the white very greatly.

There is an element of grim humor to the Southern man in the statement of the census-taker, as published in Bulletin 38 of the Department of Labor. In our minds we can see him, earnest and perspiring, wading through a mass of misleading statements and prevarications, then filing his report:

> Legal marriage is not considered absolutely necessary. Of forty couples who reported themselves as married, only twenty were legally married in the church or by legal authorities. Numerous cases are seen of two persons legally married and yet each living with a different person and reporting as being married to the second.

The negro is ambitious, after a fashion—ambitious to shine—for pride in him means what others think of him, not what he is. Mentally he is grown, but with a curious mushroom growth, and, psychically, he is a mass of the crossed strains of civilization and barbarism. This is the negro before infection.

### LIABILITY TO INFECTION

It is my honest belief that another fifty years will find an unsyphilitic negro a freak, unless some such procedure as vaccination comes to the relief of the race, and that in the hands of a compelling law.

Altruism, as a part of the negro psychology, does not exist. He is, above all, an egoist, a modern Cain, who in nowise considers himself his brother's keeper.

A negro man will not abstain from sexual intercourse if there is the opportunity and no mechanical obstruction. If it hurts him, as in gonorrhea, he will abstain, but, let the chordee pass, and the bars are down for him.

Even among the educated, only a very few will carry out the most elementary instructions as to personal hygiene. One thing you cannot do, and that is to convince the negro that he has any disease that he cannot see or feel. This is due to lack of concentration rather than a lack of faith; even if he does believe, he does not care; a child of fancy, the sensations of the passing hour are his only guides to the future.

The spread of venereal disease is dependent, to some extent, at least, on the moral status of the race, and the morals of the negro is something of which the average man of other climes has no conception. His sexual powers are those of a specialist in a chosen field. Prostitution is not a disgrace, as in the white man's sense, and the worn-out prostitute of to-day may be the woman you employ as your maid to-morrow.

Religion is essentially emotional with the negro and he frequently seems to be his own judge as to sin. Honesty is frequent and faithfulness to financial trust is common, but adultery and fornication is literally not regarded as a sin. In some manner the negro has switched the Decalogue to suit his convenience and has made himself exempt from the seventh commandment.

### GENERAL RESULTS OF INFECTION

The general results of infection in the negro are all physical. There never was a syphiliphobiac in this race, for the knowledge that he is a syphilitic in nowise disturbs the negro. His idea of the medical world is that there is a remedy for every disease and that all that the doctor does is to select the right medicine. If one doctor cannot, another can, so what is the difference? He will take any treatment for awhile and readily rids himself of all that he can see or feel, then he stops and comes back when the relapsing syphilides appear. Get him well of these and the next time you see him he is with the gumma. Since in a large clinic experience with all classes of negro syphilitics, among the patients not one has gone through the usual course of prescribed treatment, a natural conclusion is that, once infected, the average negro goes on to an average result. It could hardly be otherwise than that a disease so terrible and widely spread should work great changes in these people.

Insanity has increased in a truly appalling manner and we know that syphilis is a great cause of insanity in the white. Being more common among the negroes, it must be true that it is proportionately a greater cause in them, and, if this be admitted, it must then cause a greater number of cases of unbalanced mentality in persons never confined to asylum walls. The negro who commits the unspeakable crime of rape on the white woman is not a normal well-balanced man, nor is the negro who hides the criminal from pursuing justice, though he knows all the circumstances of the case, a member of that race which protected the women and children when their masters were at the battle front. The negro woman who believes every man of the white race a candidate for her charms, did circumstances allow, is not the same woman that the Southern child revered and loved to call "mammy." A horrible mixture of evils has done its work, and high up among them I place syphilis.

Tuberculosis is often spoken of as the scourge of the negro, but there must be twenty syphilitics to the one consumptive; and hundreds of the negro consumptives have syphilis to combat as well. This may sound exaggerated, but it is near the pitiless truth.

Syphilis affecting the individual negro is not to any great extent different from the disease in the whites. There are, however, a few points of difference.

From what has gone before, one would naturally conclude that, owing to the habits of this people, the disease would be more severe in its manifestations, and such is the case. Tertiary manifestations form a larger percentage of the cases and all phases are more intense. Among the eruptions there is a greater predominance of the pustular type, and rupia is fairly common. From the skin an early diagnosis is hard to make, the macular syphilides in particular being but a slight darkening of the skin. The pigmentation of the negro skin is so great that all discolorations show up as black spots and the only variations in color is the density of the blackness. From this cause the color of eruptions is no guide to diagnosis.

There is a special tendency to the papular-serpigiform conformations around the mucous outlets. Here the abraded papule takes on an enormous overgrowth due to body filth. Because of an almost invariable partial treatment there is a great predominance of relapsing syphilides.

As compared to the white, the negro's teeth are the better, and for that reason mucous patches are not so common. Gummata of all regions thus affected are common.

With the exception of the pigmentary changes, it may be justly remarked that these are all points that apply to the white races in the slums. This recalls an old Indian chief who was standing on the ice at Toronto, watching the winter carnival. He was barefooted, bareheaded, and his only raiment a blanket drawn around him. Being asked by a spectator how he could endure such intense cold with the scant covering, he replied. "Your face cold?" "No," was the reply. "Good, me all face," said the chief. The average negro is all slum

### TREATMENT

The only thing we can do is to give treatment, although we can have no heart in giving it. The serum treatment of syphilis, if there ever be a successful one, is the negro's only hope, and that would have to contend with such superstition that it would have to be a compulsory law. Until then mercury and the iodids must be given, but in treating the negro one must do nothing that causes him pain—for instance, give hypodermic injections—as it is unlikely that he will ever show up for the second dose. Nor will he do anything so troublesome as the application of inunctions; with him it is treatment by mouth or nothing.

With no class of case should we try for so strong a mental impression, and under no circumstances should treatment be instituted until the negro is thoroughly convinced of his having the disease. No exaggeration is out of place in describing to him the possible dire results of not taking treatment; some good has resulted from showing the chancrous beginner the gummatous graduate, in an attempt to frighten the former to a course of self-salvation.

When the iodids are given, they should be given in fixed doses, as a teaspoonful at the time, for the negro will not take the trouble to pour out drops in ascending doses unless destruction is walking lock-step with him. It should also be remembered that a negro will take an unpleasant dose when a palatable one is neglected. Above all, do not, in any way, spare his feelings. Call syphilis the pox—be brutally plain, for any attempt to spare his feelings will only result in his belittling his condition.

Teaching him the hygiene of the disease is so hopeless that when we instruct him it would be a farce were it not a tragedy.

### POLITICAL ASPECTS

Fortunately or unfortunately for the South, the negro problem is no longer a local one and is growing more national every day. If the healthy negro is a political menace, then the diseased one is doubly a social menace, and the invasion of the South by the North forty years ago has brought about an invasion of the North, and that by the man they freed.

The negroes of Southern birth, living in the North, have increased twice as fast as the negro population of the country, and in the year 1900 one twenty-fourth of the whole negro population lived in the North.

That miscegenation and its evils are more common in this part of the country is shown by the census findings that the proportion of mulattoes was greatest where the whites were in excess of the blacks.

The future of the negro lies more in the research laboratory than in the schools. This strange and pitiable creature, whose mind and body are traveling in different directions, is an ever-changing type, and new ideas have to be evolved to meet him at his different stages of mingled development and retrogression. The negro of 1859 was a fixed type and men could plan with this type as a basis; the negro of 1889 was a different man, and the negro of to-day is another. Fifty more years will, no doubt, bring another type more puzzling than those gone before, and at that time the problem will be a new one with the experience of the past, but little help to solve it.

The negro will never rise to a satisfactory place in the economics of the nation until laws are passed that relate to him and him only, as laws are made for the Indian to-day. When diseased he should be registered and forced to take treatment before he offers his diseased mind and body on the altar of academic and professional education. In a word, he needs a paternal government—the fellowship of the republic is not his birthright or his right; he needs a Moses to bind him with a law.

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# THE SURGICAL DIAGNOSIS AND TREATMENT OF TUMORS IN AND ABOUT THE SPINAL CORD

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The percentage of cures in operations for tumors in and about the spinal cord is given by Stursberg as 32.2 per cent. A perusal of the complete literature of the subject will readily convince anyone that this percentage will eventually be much higher.

After operation patients have died from excessive loss of cerebrospinal fluid, from sepsis, from shock, from exhaustion. The errors have been only partly surgical, for the patients have been rendered more liable to succumb to them through diminished resistance caused by delay in operating. In a large number of the recorded cases, the symptoms have preceded operation by two or three years or more; and pending the trial of futile treatments, notably the mercurial, the chances of cure have been scattered to the winds. Errors in diagnosis, unavoidable during the formation of a complete symptomatology of this rare disease, have also helped to swell the list of failures. Cases have been overlooked, either entirely or until beyond help; operations have been waived because certain symptoms, or the lack of them, seemed to undermine all basis for interference. I have seen more than one operation given up on the ground that the tumor was intramedullary, a diagnosis practically impossible to substantiate without operation; or because pain (which may be entirely absent) was not pronounced enough to make diagnosis sure.

Until now, perhaps, conservatism has not been misplaced. But the time has surely come to widen the operative horizon. We are now in possession of new clinical guides, notably serous meningitis as a complication or a disease, the occurrence of internal hydrocephalus with its choked discs and cranial nerve palsies, and the facts that tumors exert their chief pressure at the upper pole and that faint anesthesia may be of practical value equal to that of total anesthesia. We have also learned how erratic tumors in and about the spinal cord may be, in that the course may be rapid or slow, cardinal symptoms default and the whole clinical picture closely resemble some totally different condition. In the past diagnostic efforts have been directed chiefly to the determination of the variety of tumor and of its position with reference to transverse section of the cord. But now it has been forced on us that the diagnostic consideration which outweighs all others in importance is the ever-present consciousness that a spinal cord tumor may masquerade under the guise of any one of the several chronic spinal diseases. The question used to be, "Are we sure an operable tumor is present?" It now is in every case of paraplegia coming on without known cause, "Are we sure a tumor is not present?" So we are destined thenceforth to operate more freely on the spine. Failures will be encountered; the successes will more than counterbalance them.

In the present paper I have three new cases, with operations, for record; and the after-histories of three cases which were published several years ago, shortly after the operation.

I shall also discuss certain features of the disease which bear on surgical diagnosis, and shall express certain views on surgical procedure obtained from assistance at a large number of spinal operations.

## REPORTS OF CASES

Case 1.—*History.*—A man, aged 46, was admitted to the New York Hospital in February, 1903. Two years before he had begun to have pain in the left arm. At first it was intermittent, was not severe, and could not be definitely localized. It gradually ascended to the shoulder, appeared on the front of the chest and later involved the right arm. This state of things persisted for more than a year but did not require the patient to give up his work. Several months prior to admission, i. e., seventeen months from the beginning, the pain became more troublesome, and four months before admission had reached a degree of severity at which work was impossible. At this same time it extended and invaded the legs, which latter also began to tingle and feel numb, and the feet felt dead. Contemporaneously with the downward extension of these subjective sensory disturbances the lower extremities began to lose power, a condition which progressed so that on admission the left lower extremity was almost totally paralyzed, and the right was very weak. The arms became weak, but not totally paralyzed.

*Examination.*—The sphincters acted normally throughout. The type of paralysis in the legs was spastic; the knee-jerks were exaggerated, and positive Babinski with a tendency to flexor contractions was present. In the upper extremities paralysis was most marked in the small muscles of the hand and in the flexors and extensors of the wrist and fingers, all more pronounced on the left side. The thumb and interossei muscles on the left were atrophic. There was some blunting of sensibility, marked in the feet, but too indistinct for purposes of localization. Localization was arrived at by the type of motor paralysis, and operation was recommended.

*Operation.*—This was performed by Dr. Frank Hartley. Under the fifth cervical lamina, higher than expected, was found a cystic tumor about the size of a pigeon's egg, which bulged up in the wound on opening the dura. It was connected with the pia by a poorly vascularized pedicle. Beneath the tumor the cord was flattened and pushed over to the right. The tumor was readily removed and found to be a neurofibroma (glioma?).

The patient was emaciated and weak from two years of suffering, was a poor operative risk, and died from asthenia five days after the operation.

Case 2.—*History.*—A woman, aged 45, three years before coming under observation began to have pain and weakness in the right leg. The pain was tearing in character and radiated from the toes up the leg to the under side of the thigh into the perineum. This persisted and she tried many treatments without help. After two years she went to Germany and took the baths for seven months. The pain left her and she thought she was cured. But shortly after returning to this country the trouble in the right lower extremity returned, and to them were added similar ones in the left.

*Examination.*—This showed a partial spastic paralysis of both lower extremities, with exaggerated knee-jerks, foot-clonus and Babinski sign, all more marked on the right. She walked with great difficulty. As she lay quietly in bed she said she was free from pain. But any movement of the legs, either voluntary or passive, caused severe pains, which shot up the legs through the perineum to the back. There was partial anesthesia to all forms of sensory stimuli in both lower extremities. This was most profound in the feet. A line of demarcation separating normal sensibility from a slight blunting of tactile sensibility could be drawn midway between the umbilicus and pubes in front, and through the ninth dorsal spine behind. The ankles were slightly edematous, although there was no kidney disease. She complained at times of difficulty in urination. The bowels were constipated. The vertebræ were not painful to pressure, though pressure over the ninth caused a tingling sensation in the legs.

*Operation.*—On Oct. 25, 1908, Dr. Robert Abbe removed the laminæ of the eighth, ninth and tenth dorsal vertebræ. The dura was found congested, non-pulsating and resistant. On opening it a purplish sausage-shaped tumor measuring 2 by 5 cm. was found adherent to the pia and was removed; the cord was badly flattened. Pathologic diagnosis, glioma.

The patient made a good surgical recovery, but her improvement while she remained in the hospital was slight, and a report six months later was not encouraging.

Case 3.—*History.*—A woman, aged 48, began to have sensations of pins and needles in the soles of the feet five years before admission. These increased and extended to the thighs. She then developed pain in the back, and two and a half years before admission began to lose power in the legs. She was operated on for tumor of the uterus, without relief, of course, to the spinal symptoms. The pain and disability became steadily worse. The legs and feet began to jerk involuntarily and the patient complained of a sensation as though something were tightly bound about her abdomen. The bladder and rectum gave no symptoms.

*Examination* (Nov. 8, 1908).—The patient walked with a cane, with difficulty and uncertainty, and apparently walking was painful.. Both lower extremities were in a condition of spastic weakness. On both sides there were increased knee-jerks, ankle-clonus and Babinski, all most marked on the right. There was no pronounced anesthesia but there was a diminution of all forms of sensibility reaching to the inguinal folds in front and the crests of the ilia behind. There was no deformity of the spine, though tenderness to pressure was complained of over the eleventh dorsal vertebræ.

*Operation.*—This was performed on Nov. 8, 1908, by Dr. Robert Abbe. The tenth, eleventh and twelfth dorsal spines were removed. A distinct resistance was felt through the dura, and on opening this membrane, cerebrospinal fluid escaped freely, and a hard tumor 2 by 1.5 cm., adherent to the dura, was disclosed. The cord was much compressed. Hemorrhage was slight. The tumor was completely dissected away and the wound closed.

Almost immediately after the operation the pulse became rapid, of poor force, and the patient became cyanotic. The temperature and pulse rapidly rose. On the day of the operation the bedside notes show the following:

| | Temperature. | Pulse. | Respirations. |
|---|---|---|---|
| 8 a. m. | 103.2 | 132 | 28 |
| 12 m. | 104.0 | 132 | 26 |
| 4 p. m. | 105.4 | 124 | 30 |
| 6 p. m. | 106.2 | 120 | 40 |
| 11 p. m. | 107.2 | 140 | 40 |

Shortly after 11 p. m. on the day following the operation the patient died. There was some discharge from the wound but no infection.

This case was seen in consultation with Dr. Joseph Collins, who will report it more fully elsewhere. It is one of the many instances of rapid death following operation on spinal-cord tumor. I cannot but feel that in it, and in cases similar to it, the cause is to be connected with changes in intracranial pressure which are brought about by losses in cerebrospinal fluid. It is true that in this case the loss was not greater than in many cases which proceed favorably. And, on the other hand, a similar death has occurred even when the spinal dura was not opened. But the evidence is sufficiently strong to make it probable that that operative technic is the best by which little or no fluid is lost.

The three cases which follow have already been published, but notes as to the present condition of the patients are of interest, as they show how permanently beneficial or curative laminectomy may be.

Case 4.—The patient, a man, aged 39, operated on by the late Dr. A. J. McCosh in May, 1900, had suffered for fifteen months, and for six months prior to operation had been unable to work.[1] The symptoms consisted in pain, great difficulty in walking, due chiefly to pain, and weakness in the left leg. The left knee-jerk had diminished, and the left leg was atrophied. There was some hyperesthesia and difficulty in urination. A soft subdural tumor was found in the region of the first lumbar vertebra. A few months after the operation the man returned to work and has been at work ever since (December, 1908). He is entirely free from pain. The knee-jerks are normal and the anesthesia has disappeared. The bladder and sexual functions are normal. The left calf is still one-fourth inch less than right. The only reminder he has of his former trouble, eight years after the operation, is that the left leg tires more easily than the right.

Case 5.—The patient, a woman aged 32, had suffered for eleven years from the pain characteristic of spinal-cord tumor.[2] For six months before the operation it became even more severe and paraplegia developed, so that finally the patient could not walk and had to be lifted on the operating table. The left knee-jerk was absent and the right much reduced. There was anesthesia in the legs, with indefinite upper boundary. The operation, performed by Dr. Farquhar Curtis, in December, 1907, disclosed a fibrous tumor lying extradurally in the opening made by the removal of the first, second and third lumbar vertebræ. After a slow and painful convalescence, this patient recovered in every particular, so that in June, 1909, eighteen months after the operation, she is in perfect health. She walks without limp; she can run, jump, make quick movements and says she can walk ten miles. She has no pain whatsoever. The anesthesia has vanished, and the knee-jerks are both present, equal, though not lively.

Case 6.—A boy who had suffered for years from pain and other symptoms of spinal-cord tumor consecutive to trauma, was operated on in March, 1905, by Dr. W. N. Dowd.[3] The operation consisted of removal of parts of the third, fourth and fifth lumbar vertebræ, under which was found a subdural endothelioma, 2 inches long. Reexamination in November, 1907, showed that most of the atrophy had disappeared, the knee-jerks had returned to normal and there was no longer anesthesia. There had been no root pains since the operation, though the back was still stiff and sensitive to jars. The patient is active and able to work. By the original injury the sacrum had been badly fractured. The deformity and stiffness of the back, which were the results of this, remain; and such disability as the patient has are the consequence of this bone injury. All the tumor symptoms have disappeared.

## DIAGNOSIS

It is not at all within the scope of this paper to discuss the various symptoms by which spinal-cord tumors are recognized. But before passing to considerations more practically surgical it may be said that Pott's disease, erosion of the vertebra through aneurism and syringomyelia may occasionally give symptoms similar to tumor. Hysteria can hardly be so mistaken. But multiple sclerosis can and frequently does give symptoms identical with those a tumor may give. No less an authority than Nonne confessed (more honor to him!) to having operated twice, when multiple sclerosis proved to be the cause of the symptoms.

That text-books give so little attention to the differentiation between primary and metastatic tumors is probably due to the fact that metastases are usually unmistakable both from the history and from the intense local tenderness in the spine. But the diagnosis may be difficult or impossible if the metastasis is not in the bone, or if, though situated there, it is atypical in giving neither local pain nor tenderness. It has happened more than once that the metastatic character of the compression became clear only at the time of operation. To avoid such errors, thorough examination of the whole body and more general study of the metastases in the spine will be our greatest help.

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[1] Jour. Nerv. and Ment. Dis., xxx, 99.

[2] Jour. Nerv. and Ment. Dis., xxxv, 316, Case 1. Patient shown at meeting of Am. Neurol. Assn., May, 1909.

[3] Jour. Nerv. and Ment. Dis., xxxv, 317, Case 2.

Of the various tumors which may give rise to secondary deposits in the spine, carcinomas, especially of the breast and prostate, are the most frequent. Their metastases are almost always in the vertebræ. The metastases of sarcomas are usually in the form of direct extension from neighboring parts, especially of the ribs and pleura. These may involve the bone, or be seated in the membranes, having skipped the vertebræ, or in the cord itself, without involvement either of bone or membrane. The metastases of sarcomas when the primary focus is in the nervous system itself are rarely recognized during life.

Hypernephromas have a predilection for the vertebræ in their extensions. This form of tumor is of erratic behavior and often exists in the kidney for years, giving few or no symptoms. It is finally surgically recognizable by palpation of the abdomen and by the urine showing blood-cells and sometimes the reaction of Bence Jones. In its spinal metastasis it may not lead to rapid disintegration of the vertebræ. In two cases of this character seen in the past year, in both of which the cord was compressed, it was impossible to determine from local examination whether the growth was in the bones of the spinal canal or within the canal itself.

Fibromas cannot be regarded as metastatic tumors, but by their methods of spreading and dissemination they present features which are of importance in diagnosis. In the inoperable neurofibromas which attack the caudal end of the cerebrospinal axis, the fibrous nodules often extend beyond the canal and can be felt as painful lumps in the course of the peripheral nerves. In the cervical region a number of cases are on record in which a large connective-tissue tumor in the neck (usually lying under the trapezius) was connected by a pedicle through an intervertebral foramen with a tumor mass attached to the external surface of the spinal dura. It was not determined in these cases whether the extension had been outward or inward, but the palpable tumor in the neck might have thrown light both on the histologic character of the cause of the compression and on its location. Bruns has reported a somewhat similar case in which the symptoms began as a neuritis of a brachial nerve, consecutive to a fall on the hand and which went on to compression of the cord.

Dercum has called attention to the fact that a long-standing (and apparently simple) goiter may be followed by metastasis of rapid growth in the spine.

Examination of the cerebrospinal fluid has not proved to be of great practical value in diagnosis. The fluid is generally normal, the only exception being in cases of acute disseminated sarcomatosis of the central nervous system. In this disease, rapid metastatic extensions to the spinal pia proceed from the primary focus, which may be in the cord or more frequently in the posterior fossa of the skull. The primary focus may be of gradual or rapid growth. But the metastases are rapid, resembling meningitis in their course. At the time of the metastases the cerebrospinal fluid has been found to be of yellow or brownish color and to contain an increased amount of albumin and large mononuclear (tumor?) cells.[4] The examination of the cerebrospinal fluid by means of the Wassermann test may help to throw light on the syphilitic origin of the disease. This is especially important in the diagnosis of syphilitic pachymeningitis, in the relief of which Horsley[5] has reported successful operation.

One of the chief difficulties in the clinical diagnosis of spinal-cord tumors is the extreme irregularity of their course. The onset of the disease, though usually gradual, may be very acute. A pain or a paresthesia, coming out of a clear sky, may suddenly initiate the trouble. It does not follow from such a beginning that the course of the disease is to be rapid. There is also considerable variety in the initial symptoms. While pain is the commonest one, paresthesia or motor paralysis or retention of urine may introduce the disease. The general rule that the symptoms of these tumors extend over months or years is also subject to many exceptions. Their course may be rapid enough to suggest an acute infectious disease; or they may exist, unrecognized for years, until finally the tumors find their way to the museum jars of almshouses and hospitals for chronic diseases. Even with growths of the same histologic structure and in the same position, the rate of progress varies widely. One intramedullary glioma was fatal in six weeks, while another lasted ten years.

Symptoms throughout the course of the disease may fluctuate considerably. A symptom once established rarely becomes entirely extinct, although it may become so very nearly. This is particularly true of pain. Neither the *x*-ray nor lumbar puncture have given much aid in clinical diagnosis.

In considering the course of spinal-cord tumors the history of trauma merits much attention. A number of cases are on record in which the symptoms were ushered in by an injury. Quesnel[6] reports a case in which a fall on the back (nine feet) was followed in sixteen months by the symptoms of tumor; Putnam and Elliott report a case in which a cervical tumor developed three years after a severe injury to the neck; Schultze describes a case in which a fall on the hand was followed by various abnormal subjective sensations in the hand and finally by symptoms caused by tumor of the brachial plexus. In Case 5 of the present observations the pain in the back began immediately after a bicycle collision and remained constant in the same place; and in Case 6 the tumor developed at the site of a fracture of the sacrum. In addition to being an originating cause of spinal-cord tumor, trauma also has been noted as having the effect of causing an extension of symptoms already existing.

### LOCALIZATION: (A) WITH RESPECT TO THE LONG AXIS OF THE CORD

The general rules for the localization of tumors are the same as for spinal diseases generally. But, through eagerness to localize by means of purely neurologic signs, one is apt to forget that symptoms given by the vertebræ outvalue all others in focal diagnosis. Tumefaction, if present, is in the immediate vicinity of the tumor. Deformity, though rare, may be useful, and Oppenheim claims a value for percussion. Continuous pain, localized in one or two vertebræ, and pain on pressure of the same vertebræ, and of these only, are almost diagnostic. When these surgical evidences agree with any of the purely neural focal signs, the site of the tumor is determined.

In view of the long intraspinal course of the nerve-roots, especially in the dorsal region, it is important for exact localization to determine whether focal symptoms, when confined to a root area, come from the root itself

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[4] Nonne: Deutsch. Ztschr. f. Nervenh., 1902, xxi, 396; Rindfleisch: Deutsch. Ztschr. f. Nervenh., xxvi, 135; Grund: Neurol. Centralbl., 1906, p. 640.

[5] Horsley: Brit. Med. Jour., 1909, i, 513.

[6] Quesnel: Neurol. Centralbl., 1898, p. 482.

or the segment from which the root springs. Experience seems to have verified the truth of Brun's law, that such symptoms generally proceed from the segment itself, or at least from the segmental end of the nerve-root, rather than from the nerve-root in its course or at its exit from the vertebral canal; in other words, that spinal-cord tumors compress the segments of the cord rather than the roots which run over them. This is true for such symptoms as localized paralysis or anesthesia or loss of reflex. Hyperesthesia, which may be a valuable localizing sign, may result from pressure on the root itself. This symptom, therefore, forms an exception to the general rule. An instructive example of this is given by the case reported by Quesnel.[6] There was an anesthesia in the eighth dorsal segment, and hyperesthesia up to the level of the sixth. By Brun's law the seventh segment would be involved. It was not, but the seventh root was. The tumor had surrounded the seventh root and compressed the eighth and ninth segment.

Too much reliance should not be put on the referred pains as localizing signs. They are apt to be too general and felt in too indefinite an area, and, further, may be referred to far distant points; for instance, pain in the foot in cervical tumor.

In localization in the lumbosacral region, the peculiarities of the anatomy must be borne in mind. The fibers which go to make up the cauda equina surround the lumbosacral cord intimately. Here a tumor may give rise to both cord symptoms and root symptoms, making accurate localization difficult or impossible. There are, however, certain points of distinction. Tumors limited to the cauda give sacral symptoms chiefly; i. e., paralysis and anesthesia limited to the sacral plexus; very severe pain in the sacrum, the anus and the sciatics, and an almost constant involvement of the bladder. As these cases are frequently metastatic, bone symptoms are prominent. The Brown-Séquard type of symptom does not occur. Both paralysis and anesthesia are apt to be in slight degree, and the course of the disease, if the tumor is primary, is slow.

In tumors of the lumbar region of the cord, on the other hand, there may be the Brown-Séquard complex, the lumbar plexus is more involved than the sacral plexus and is involved first, and the bladder may escape. Tumors in this region may cause an ankle-clonus, with loss of knee-jerk.

Certain facts dependent on the mode of growth have to be considered in localization. Oppenheim[7] has brought up the important point that a tumor exerts its chief pressure at its upper pole. He reports a case in which the tumor extended the distance embraced between the eleventh dorsal and the second lumbar vertebræ (i. e., from the twelfth dorsal segment to the conus), but which compressed the cord at the upper limit only, as shown by the persistence of exaggerated knee-jerk and ankle-clonus. The fact that parts overlaid by a tumor can preserve their functions is well worth notice.

### LOCALIZATION: (B) AS TO THE TRANSVERSE SECTION OF THE CORD

It is desirable, though not always possible, to determine the situation of the tumor with respect to the transverse section of the cord, i. e., to determine whether the tumor is pressing on the cord or growing in it, and whether it is anteriorly, posteriorly or laterally implanted. As to the first of these points, the most valuable information is furnished by the vertebral symptoms and by the method of development of all symptoms. Tumors of the vertebræ, whether metastatic or primary, are characterized by extreme and early bone tenderness. It is most constant in the cervical region, the region of greatest spinal movement, and in the lumbosacral region. In the dorsal region it may be absent. Nonne,[8] at one meeting of the Hamburg Medical Society, reported four cases of metastatic tumor of the vertebræ in which the vertebræ gave no objective signs whatever. In dural tumors, bone tenderness is not constant, is late in appearance and does not attain the severity found in tumors of the bone. Intramedullary tumors generally, though not always, have no bone tenderness.

Rapidity of growth gives a certain clue to the situation. Metastatic tumors are rapid as a rule, though they may last several years. Primary tumors of bone also are usually rapid. Extradural tumors, so frequently belonging to the classes of fibromas and lipomas, follow the longest course of all. Intradural tumors are the ones which follow the classical course, namely, a state of neuralgia, usually one-sided at first, lasting many months, with the gradual addition, one by one, of other symptoms.

Intramedullary tumors may follow a very rapid course, being fatal in a few weeks; or they, too, may exist for several years. A rapid extension upward of symptoms speaks for an intramedullary tumor.

Intramedullary tumors may give rise to the syringomyelic type of dissociation of sensations. But since this sign, so long regarded as conclusive of intramedullary involvement, is found in both extradural and intradural tumors, and in vertebral tumors, or since intramedullary tumors can also cause the exact opposite, viz.: a loss of tactile sensibility with preserved thermic and pain sensibility, this sign is no longer serviceable in differential diagnosis.

There are no reliable means for the determination of the position of the tumor, i. e., whether it is anterior, posterior or lateral. Tumors situated anteriorly cause the same characteristic pain as those situated elsewhere. Dr. S. E. Jelliffe informs me that in a case of his, verified by autopsy, an anteriorly situated tumor did not cause anesthesia. But in a case of mine, in which the extradural growth was entirely anterior to the posterior roots, objective sensory symptoms were distinct. It is well to bear in mind in this connection that a ventral situation of the tumor, as shown by Schlesinger's statistics, is rare.

### OPERATIVE INDICATIONS AND TECHNIC

With a localized and increasing pain, and with the gradual addition of the symptoms of compression, no diagnosis is easier than that of a tumor in or about the spinal cord. But, as I have endeavored to show, this typical picture is by no means constant. Cases are constantly presenting themselves in which the clinical picture is either *sui generis* or else cannot positively be differentiated from other spinal diseases. All of the spinal-cord diseases which may counterfeit tumor in a way to deceive a skilful diagnostician are themselves incurable. So the question which both physician and surgeon are from time to time called to answer is whether an exploratory laminectomy is warranted in the presence of a condition which, totally inaccessible to medical remedies, might, by operation, be removed altogether, or to a degree to ensure comfort and years of usefulness to the patient.

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[7] Oppenheim: Neurol. Centralbl., xxvi, p. 538.

[8] Nonne: Neurol. Centralbl., 1903, p. 430.

Considerations as to age, general physical condition, duration of symptoms and extent of destruction in the cord may decide in the negative at once. But when these features do not of themselves contraindicate, it seems right that the facts should be fully stated either to the patients or their friends; they assume the responsibility of the decision, so that the surgeon, if he operate, operates by request.

Tumors of the vertebræ are not generally promising, though under certain circumstances operation has been successful. Sick[9] reports the removal of the laminæ of five dorsal vertebræ for an enchondroma which had extended from a rib. Recovery was rapid (report two months after the operation).

Israel,[10] operating for a painful compression of the cord, found a chondrosarcoma growing in the body of the fifth dorsal vertebræ. This was removed by a sharp spoon. Three months later the patient walked again.

By reason of the extent of movement, rapidity of growth, failing resistance of the patient, and hopeless outlook, operations for metastatic tumors of the vertebræ are rarely feasible. Perhaps, when the rate of progress is slow, operation may be undertaken for the relief of pain. Thomas,[11] in writing of a case in which the metastatic nature of the tumor was revealed only at operation, reports a complete recovery from pain and paraplegia, the report extending for six months after the operation.[12]

If the symptoms are to the effect that the tumor is not in the bones, but is in the membranes, or in the cord itself, the indications for operation are much more positive. The only contraindications, then, are the enfeeblement of the patient or evidences of irremediable destruction. This is said with a full realization of the general hopelessness of operation in intramedullary tumor. Although a few of these, growing on the surface of the cord, have been successfully removed, the chances of success in such cases are poor. But the recommendation is made general for the reason that the diagnosis of intramedullary tumor cannot be made *intra vitam* with sufficient certainty to contraindicate an operation with so high a potential for good.

Laminectomy for spinal-cord tumor is hazardous. In 26 operations reported by F. Krause, 8 patients died as an immediate consequence of the operation. This high mortality is due, in part at least, to the poor resistance of the patients. For laminectomy for other conditions is not followed by any such death rate. One lesson taught is to operate early—before the advent of complete motor paralysis, or cystitis or trophic disturbances. Another lesson is to profit by every experience to reduce the dangers.

The fact that laminæ may be removed without materially weakening the spinal column seems to have fostered the idea that the field of operation may be enlarged to suit the surgeon's convenience. Frequent reports mention the removal of five or six or even more laminæ at a single sitting.

The removal of one lamina does not give sufficient exposure to judge of the condition of the dura. But with two chipped away, the dura comes plainly into view and can be satisfactorily palpated. Assuming the localization to have been accurate, the appearances now presented vary with the situation of the tumor, both as to whether it is vertebral, extradural, intradural or intramedullary and as to its situation with regard to the transverse axis of the vertebral canal.

In this connection it is of advantage to have in mind the probabilities of situation. These may be found in the table of Schlesinger. Intradural meningeal tumors exceed in frequency the extradural tumors in the ratio of 142 to 75. A large proportion are lateral or central in situation. Thus of 76 cases, 7 only were on the ventral half of the cord. The chances are about one in three, therefore, that the operative exposure of the dura shows the tumor immediately, and the chances that the tumor is hidden from view by being behind the cord (from the position of the operator) are very slight, indeed. When so situated, the cord may cover it so completely that it is invisible and the operation fails.[13] If no tumor is found on exposure of the dura and if a probe or hook passed ventral to the dural sac encounters no obstacle, the dura must be opened. But before doing this, its color and consistency should be observed. Often in the upper or lower end of the bony gap the membrane is dark blue in color and resistant and non-pulsating. This may be taken as an indication as to which lamina should next be removed. The removal of this third lamina is nearly always necessary, but the postponement of it till this stage will often render it superfluous to remove more, and thus avoid unnecessary delay and shock. In palpation of the dura, too great delicacy can hardly be used. The increase in the paraplegia often seen after operations of this character is doubtless due to the palpation. Once the dura is opened, if the tumor does not appear immediately, the cord should be pulled gently to one side or the other to determine if the tumor is situated laterally; or a probe passed behind the cord to determine if the tumor may be situated anteriorly. If the tumor now is not found, and it is thought best to continue the examination further by removing more laminæ, experience seems to teach that it is safer to go upward than downward. The question of escape of cerebrospinal fluid seems to me very important. Until very recently no particular attention has been paid to this at operation. But the question arises whether some of the sudden deaths following these operations may not have been partly attributable to this cause. At any rate, the avoidance of this danger, if it is one, is easy by having all such patients operated on in the Trendelenburg position, or at least on a table tilted head downward. The leaking of cerebrospinal fluid after the operation, which has been the assigned cause of meningitis in certain cases, should certainly never occur, and is easily avoided by careful suturing. Once the dura is opened and the tumor shown, the responsibility of the remainder of the operation is entirely with the surgeon. Few operations offer greater opportunity for a surgeon to show his handicraft. All cases should be left to those known to have both strength and delicacy of touch, as well as accuracy and speed.

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**Tuberculin in Progressive Paralysis.**—W. v. Jauregg, of Vienna (*Wien med. Wchnschr.*, lix, 1909, p. 2123), announced recently good results in progressive paralysis by injecting tuberculin, beginning with minute doses and gradually increasing to 0.5 gm. This maximal dose is reached in from seven to twelve injections at two-day intervals, care being taken to avoid a temperature reaction over 39 C. (102.2 F.). He asserts that improvement was almost always apparent. In some cases prolonged remissions lasting up to two years occurred. He states that when recurrence took place resumption of the tuberculin treatment again put a stop to the disease. The article contains little to warrant the claims of the author.

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[9] Sick: Deutsch. med. Wchnschr., 1905; Neurol. Centralbl., 1905, p. 428.

[10] Israel: Neurol. Centralbl., 1903, p. 182.

[11] Thomas: Jour. Nerv. and Ment. Dis., 1902, p. 98.

[12] Patient lived for four years.

[13] Saenger: Neurol. Centralbl., 1909, No. 3.

# ANIMAL EXPERIMENTATION

## THE PROTECTION IT AFFORDS TO ANIMALS THEMSELVES AND ITS VALUE TO THE LIVE-STOCK INDUSTRY OF THE COUNTRY *

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In subjecting to a careful analysis the results that have accrued from animal experimentation it is not easy to separate many of those which have benefited brute creation from those which have tended more or less directly to alleviate some form of human suffering. The animal experiments which led to the discovery of the facts that form the basis of our present knowledge of the action of the heart, the circulation of the blood, the mechanism of respiration, the functions of the various organs, the action of drugs, the causes of epizootics and the effects of different foods, are generally omitted in [illegible]ting out the extent and value of our knowledge of [illegible]se vital subjects. As the life conditions of lower animals have been greatly benefited by the acquisition of knowledge derived from such experiments, it is not unnatural that those interested in the well-being of domesticated animals should not only wish to continue but also to add to these benefits by the use of methods already demonstrated to be efficient. On the other hand, the supporters of the propaganda against animal experimentation wish the work to be discontinued. In their arguments they fail to take into account the source of the very knowledge of physiology and pathology which they are pleased to possess, denounce the methods by which it was acquired and imply that we already possess sufficient information on subjects of this kind.

In the endeavor to ascertain the rightfulness of animal experimentation or to justify its continuance, we are confronted at the outset with certain basic questions, the answers to which must determine whether or not the routine, the investigations and the research which involve animal experimentation shall or shall not be stopped. These questions are: Shall the process of evolution of the knowledge of physiology and the diseases of animals and their prevention be arrested? Shall efficient methods of treatment be discarded? Shall the domesticated animals, dependent, as they are, on man for their protection, be subjected for future generations to the merciless cruelty of bacterial and protozoan diseases without the application of known methods to prevent them? Shall the animal industry of the country suffer continuously great losses from disease and death of animals because the methods of preventing them may cost the lives of a few individuals? Shall our export trade in animal products, which is carried on only because of the slaughter of millions of cattle, hogs and sheep, be interrupted, with all the attending consequences of this interruption in order to save the lives of a few experimental animals? In the interest of commerce, humanity and the animals themselves, the answer to each and all of these questions seems to be one and the same—no, emphatically no.

The spirit which dominates the work involving animal experimentation is the desire to add to our common kn[illegible] and important facts that will make possible the formulation of more efficient methods for preventing suffering and loss by death in the dumb creation. All further knowledge or better understanding of the subtle forces of Nature that produce disease and death in animals must be attained through the use of animals. The methods now in vogue for the control of epizootic diseases are based on the results obtained from animal experimentation. The diagnosis of an epizootic sometimes requires the use of animals, and many of the therapeutic agents as well as preventive vaccines demand the continued employment of living animals. No one uses sentient creatures experimentally from choice, but unfortunately there is no alternative. We must either use a few living animals as reagents and manufacturers of vital products, or subject our flocks and herds to the ravages of uncontrolled pestilences.

In the United States there are animals, exclusive of poultry, cats and dogs,[1] valued at $4,331,230,000. The United States[1] has an annual export trade in animals and animal products of $254,798,329. The acquiring of this great wealth in animals and the commercial interests involved have been possible because of the somewhat successful methods that have been formulated and applied for preventing and controlling epizootic diseases. Without their control this country could not enjoy the present benefits of its export trade. As soon as an epizootic, like contagious pleuropneumonia or foot-and-mouth disease, appears, the foreign ports are closed to the importation of animals from the infected districts. The prevention of the severe losses formerly sustained in the northern part of the United States from Texas fever has been made possible by the acquisition of knowledge pertaining to its specific method of dissemination. These illustrations are sufficient, although others could be cited, to show the importance of maintaining as complete a control as possible of epizootic diseases. From the humane side of the question, a further reason for the subjugation of these diseases is found in the alleviation of the suffering to the animals themselves from the inroads of such diseases. Again, the loss occasioned by the epizootic diseases to the individual animal owners is not entirely determined by the value of the animals that die. This is measured in part by the attending human suffering from want and privation, brought about by the loss of animals that were the only source of revenue for the purchase of necessary supplies.

In times of prosperity it is not customary for even the more thoughtful to consider seriously the sequence of events which make the existing success in the traffic of animals and their products possible. The number of the infectious diseases to which our domesticated animals are susceptible, and the suffering and loss which they formerly occasioned, are generally either unrecognized or forgotten. A mere glance at their history will show that the infectious and epizootic diseases baffled all attempts at prevention until a knowledge of their specific nature was determined as a result of animal experimentation. These investigations showed that the epizootic diseases are due to infection with some micro-organism. In certain instances the specific organism has not as yet been discovered, but its means of transmission has been determined, while in others the specific cause itself has been found. With this knowledge these animal plagues can be, and are, largely controlled. It is from the knowledge derived from animal experimentation alone that it has been possible to bring the great

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* [illegible] one of a series issued in pamphlet form by the [illegible] of Medical Research of the American Medical [illegible]culation among the public. Ten of these [illegible]ady, taking up the relations of animal experi[illegible] diagnosis, cancer, vaccination, the live stock [illegible] typhoid, dysentery, rabies, internal secre[illegible]ses, etc.

[1] Year-Book of the U. S. Dept. Agric., 1907.

scourges of animals, like rinderpest, contagious pleuropneumonia, anthrax, Texas fever, rabies, foot-and-mouth disease, and many others, under the present state of subjugation. This has not only prevented untold suffering to millions of animals, but it has also saved them for their owners.

The fact should not be lost sight of that the diseases mentioned, as well as many others, are liable to be, and often are, reintroduced after they are successfully eradicated. This is illustrated by the destructive malady known as foot-and-mouth disease, which has been introduced and eradicated from this country at least three times.[2] This fact calls for constant vigilance and often the employment of preventive vaccines as well as other precautionary measures. The true conditions relative to the relation existing between our live-stock industry and the control of disease may be better understood by reviewing somewhat briefly the history of a few of the more important epizootic diseases.

### ANTHRAX

Anthrax has been known since very early times. It was primarily a scourge of cattle and sheep, but often of other animals and of man. It caused annually the death of thousands of animals until its cause was discovered, its method of dissemination determined and a preventive vaccine brought out by Pasteur. The successful vaccination against anthrax by the use of attenuated virus which was demonstrated to the satisfaction of the scientific world by Pasteur[3] robbed anthrax of much of its terror for the cattle owners and enabled farmers to keep live stock in many localities where otherwise it would have been impossible. This was also true in America. The work of Chester[4] in Delaware, in the production and use of anthrax vaccine, which enabled farmers in the pest-ridden sections to keep cattle with impunity, illustrates the value of this work to American agriculturists. The more recent method of vaccination, involving but one injection of virus with a quantity of immune serum, described by Sobernheim[5] and used extensively in South America, is reported to have given excellent results. This means the saving of many animals.

In 1894 Chamberland[6] reported that a total of 1,988,677 animals had been inoculated in France, and the loss from anthrax had diminished from 10 per cent. in sheep, and 5 per cent. in cattle, to less than 1 per cent. in sheep and 0.25 per cent. in cattle, a saving of over $2,000,000.

Anthrax has been carried to many places in the United States, and were it not for the preventive measures that are being applied wherever it appears it would soon become a serious menace to the dairy and cattle industries of our country. This is illustrated by the outbreaks in northern New York, where in 1906 it appeared on eighty-four farms.[7] There were 170 fatal cases before immunization by vaccination could be established. More than 3,000 animals were vaccinated and the ravages of the disease were stopped. Animal vaccination since then has kept the disease in subjugation.

The number of animals that are necessary in the preparation and testing of the vaccine and in making early and positive diagnoses is not large, but the number of deaths and the amount of suffering prevented are great. So thoroughly familiar are our people with the fact that there is a preventive treatment for anthrax that it forms a part not only of their basic knowledge, but also of their working methods in protecting their flocks and herds.

### CONTAGIOUS PLEUROPNEUMONIA OF CATTLE

This disease is said to have originated in the highlands of central Europe, whence it spread to every cattle-raising country in the world. It was estimated that during the first quarter of the nineteenth century this disease cost England $450,000,000 in deaths alone. The additional losses for deterioration were never estimated.[8] It was probably introduced into the United States in 1843, in a cow imported directly from Europe and taken from shipboard into a Brooklyn cattle-shed. At first its spread was not rapid, several years elapsing before it became widely disseminated in the Atlantic states. It was not, in fact, until about 1880 that it became evident to those most familiar with the disease that if it were not eradicated it would, through some one of the increasing number of avenues of transportation, soon reach the cattle ranges of the West and ruin the cattle industry of this country.

The general dissemination of this disease was due to the ignorance of the people concerning its contagiousness. In 1851 experiments[9] at Pomeraye and other places in France demonstrated its infectious nature and showed beyond doubt that it would spread from diseased to healthy animals. Owing to general skepticism, these results were not accepted until they had been many times repeated. This was particularly true in the United States. The American mind wanted additional evidence and the result was the well-known experiments made by Dr. D. E. Salmon[10] in 1884 on Barren Island. These furnished such undoubted evidence of the infectious nature of the disease that it was not difficult to obtain from Congress the necessary legislation and appropriation for instituting methods for its complete eradication. As a result every trace of this disease was removed from the United States[11] within the brief period of less than six years at a cost ($1,509,000.72) that was trifling in comparison with the losses likely to occur annually as soon as the disease had obtained a foothold among the cattle on the western plains.

### GLANDERS

This is one of the oldest equine diseases known. The ancients describe it and speak of the extensive losses it produced. Many theories existed concerning its source, the most prevalent one being its transmission in some unknown way through the air. Toward the end of the eighteenth century it was demonstrated by animal experiment that the disease was transmissible by inoculation and communicable to man. In 1882 its specific organism was discovered. It is hard for us to appreciate at this time the difficulty experienced in establishing the infectiousness of this disease, notwithstanding the enormous losses it was causing annually. Skepticism died out, however, when Loeffler and Schütz[12] were able to produce it with pure cultures of the bacillus they had discovered and, further, were able to show how its virus was disseminated through the nasal discharges from infected to well horses. Another victory was realized in the production of mallein from cultures of the glanders bacillus. By the use of this substance the disease can be detected in animals that have been exposed but which as yet do not show evidence of infection. By detecting and removing the infected horses before the disease comes in evidence and before the bacteria are escaping, the spread of the disease is checked. Glanders, like anthrax, is transmissible to man, and already a number of cases have been reported in men who have had the care of horses. Since the introduction of mallein and the enforcement of sanitary regulations compelling the destruction or isolation of infected animals, the spread of glanders has been greatly reduced. While general statistics are wanting, the importance of this disease can be understood from the fact that in ten years (1876-1886) in Prussia alone it destroyed 20,566 horses.[13]

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[2] Salmon: Foot-and-Mouth Disease, Year-Book, Dept. Agric., 1902, p. 643; Pearson: Circular No. 15, State Live Stock Sanitary Board of Pennsylvania, 1908.

[3] Hamilton: Louis Pasteur, His Life and Labors, 1885, p. 238. D. Appleton and Company.

[4] Chester: Anthrax Bacteriologic Work, Rep. Delaware Agric. Exper. Station, 1895, p. 64.

[5] Sobernheim: Ueber das Milzbrandserum und seine praktische Anwendung, Deutsch. med. Wchnschr., 1904, Nos. 26 and 27.

[6] Chamberland: Jour. d'Agric. prat., 1894, i, 627.

[7] Burnett: The Control of an Outbreak of Anthrax, Am. Vet. Rev., 1908, xxxiii, 136.

[8] Special Rep. No. 12, Dept. Agric., Washington, D. C., 1879, p. 233.

[9] The report of the scientific commission appointed to make these investigations is translated in the Veterinarian, 1854, xxii, Series 3, vii, 335.

[10] First Annual Report, Bureau of Animal Industry, U. S. Dept. Agric., 1885, p. 170.

[11] Rusk, J. M., Sec. of Agric.: Proclamation, Eradication of Pleuropneumonia, Sept. 26, 1892.

In the United States glanders is of much significance, especially in the cities. Its early diagnosis and control are of great economic as well as sanitary importance. The methods by which to accomplish these results are the direct outcome of painstaking studies and experiments with animals.

### RABIES OR HYDROPHOBIA

Among the diseases of man, none are more dreaded and in animals few are more pitiful than rabies. There is no longer any disagreement among pathologists as to the existence and dangerous nature of this disease or as to its being readily communicated from rabid to healthy animals. In the maladies heretofore cited, with the exception of contagious pleuropneumonia, the specific organism has been found, isolated and cultivated on artificial media. In rabies the search for the specific agent was unsuccessful for many years. The bodies discovered by Negri in 1903 are thought by many to be the cause. Prior to Negri's observations, however, the experiments in preventive treatment had become successful. The fact was established by experiments that when rabbits are inoculated with a bit of the spinal cord or brain of a rabid dog or other animal they will die after a certain length of time (usually from fifteen to thirty days) with definite and characteristic symptoms, and that when rabbits are inoculated by the same method with the spinal cord or brain of healthy dogs they will remain well. In 1884 Pasteur[14] made the brilliant demonstration of his method of conferring immunity against rabies or hydrophobia before a commission of scientific men appointed to make an investigation into its merits. Concerning his first inoculation in man, Pasteur wrote:

> Making use of this method, I had already made fifty dogs of various races and ages immune to rabies, and had not met with a single failure, when on July 6, quite unexpectedly, three persons, residents of Alsace, presented themselves at my laboratory. One of these, a boy of 9 years, who had been bitten in fourteen different places by a rabid dog, was saved.

At the Pasteur Institute in Paris, 9,433 persons were treated during the years 1886 to 1890 inclusive. The total mortality among those treated was 0.61 per cent. In 1890, 416 persons were bitten by dogs proved to be rabid, and among these there was not a single death. In 1891, the number of persons treated was 1,539, with a mortality of 0.25 per cent., and, in 1893, 1,790 inoculations were made with a mortality of 0.22 per cent.

Rabies has spread extensively in the United States during recent years. In 1908 there were reported in the registration area 111 deaths in man and 534 localities infected with rabies. There were nearly 1,500 people who took the Pasteur treatment for this disease.[15] In 1908 there were 1,168 positive examinations[15] for diagnosis of rabies in animals made in the United States. At the New York State Veterinary College from 1899 to 1908 a total of 496[16] examinations for rabies in animals were made. These have all come from the rural districts and the smaller cities of the state. The examinations in New York City are made at the laboratory of the City Board of Health. Of these 496 examinations, 424 were in dogs, the others in cattle, horses, sheep and hogs. The number of examinations is increasing, there being over 400 for the first ten months of this year. In Wisconsin[15] 584 animals died of rabies during the past year. Of these, 100 were hogs, 400 cattle, 28 sheep and 56 horses. These facts are mentioned to show the significance of the disease for our domesticated animals.

The Pasteur treatment has been made so effective and inexpensive, as compared with former times, that, when desired, animals bitten by rabid dogs may be treated. The material may be sent from the laboratory where made, as from the New York City research laboratory for instance, and administered by the local veterinarian. The result of the work along these lines has not only proved to be a great blessing to humanity, but also a source of great relief to many animals. As a result of the fact that the method of dissemination of rabies has been determined, quarantine and other precautionary measures are possible to greatly lessen the number of animals infected.

### SWINE DISEASES

The important infectious diseases of swine known to occur in the United States are hog cholera and swine plague. The first recorded epizootic of hog cholera in this country occurred in Ohio in 1833. It gradually spread until it became a menace to this branch of animal industry. In 1899 de Schweinitz estimated that the losses from this disease alone in the State of Iowa was $15,000,000 annually. In other words, a disease supposed to have been introduced from Great Britain about 1830 had become a general and unquestioned plague by 1870. In 1903 de Schweinitz[17] found that in the blood of hogs suffering from epizootic hog cholera there was a virus that would pass through a Berkefeld filter. Continued investigations in the Bureau of Animal Industry[18] and elsewhere[19] showed that swine could be immunized against this disease by the use of serum of hyperimmunized pigs. The result of this discovery has led several states to manufacture this serum for the purpose of immunizing hogs. The saving from suffering and death to swine and the gain to the pork industry of this country resulting from this work is enormous. No one who has witnessed the suffering of hogs in outbreaks of a chronic type of hog cholera can fail to appreciate the great blessing that has come to this species of animals by bringing this scourge under control.

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[12] Loeffler and Schütz: *The Bacillus of Glanders*, Deutsch. med. Wchnschr., December, 1882; transl. in Micro-organisms in Disease, New Sydenham Society, 1886, p. 388.

[13] Friedberger and Fröhner: Therapie der Haustiere im Lehrbuch der speziellen Pathologie, 1908, ii, 435.

[14] Vallery-Radot: The Life of Louis Pasteur, ii, 219-290.

[15] Kerr and Stimson: The Prevalence of Rabies in the United States, U. S. P. H. and M.-H. S., 1909, p. 7.

[16] Moore: Am. Vet. Rev., 1909, xxxi, 20.

[17] de Schweinitz: Cir. 14, Bureau of Animal Industry, Dept. Agric., 1903.

[18] Dorset, Bolton and McBryde: Bulls. 72 and 102, Bureau of Animal Industry, Dept. Agric.

[19] King: Bull. 157, Kansas State Agric. Coll; *Reynolds: Bull.* 113, Univ. Minn. Agric. Exper. Station.

### TEXAS OR SOUTHERN CATTLE FEVER

This disease, which has been called bovine malaria, has been known for many years in the South. It frequently gained entrance to the Northern states, where it caused heavy losses in the death of cattle. The following statement concerning the disease, which illustrates its mysterious nature as viewed in that time, is taken from Dr. Smith's report:

> It was also discovered that southern cattle, after remaining for a short time on northern pastures, lost, in some mysterious way, the power to infect other pastures and were, for the remainder of their stay in the north, harmless. Again, cattle driven over a considerable distance lost, after a time on their way, the power to infect pastures. When pastures and trails had been passed over by southern cattle, it was observed that the disease did not appear at once in the northern cattle grazing on them, but that a certain period of not less than thirty days elapsed before the native cattle began to die. More curious than even these facts was the quite unanimous testimony of the stock-owners who had had more or less experience with this disease, that native susceptible animals did not transmit the disease to other natives, and that they were harmless.
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> In 1868, Texan cattle shipped up the Mississippi River to Cairo and thence by rail into Illinois and Indiana early in June caused during the summer of that year enormous losses of cattle in those states. Moreover, the east began to be aroused because western cattle infected with the disease had been shipped eastward for beef and were dying of Texas fever on the way, in the New York stock-yards, and elsewhere. The question as to the effect of such diseased flesh on human health was at that time entirely new and caused much uneasiness. The cattle commissioners of New York state and the Board of Health of New York City made a vigorous effort to check the importation of diseased cattle from the west, and to their effort we owe much valuable information of this disease.

By means of a careful series of experiments begun in 1889 Smith[20] found the cause of this disease to be a protozoon closely allied, if not identical, with the one discovered by Babes as the cause of a disease of cattle in Roumania, and that this organism was transmitted from the infected to the well cattle by means of the cattle-tick.

It has been repeatedly demonstrated by animal experiments that the cattle-tick is the carrier of the virus, and that in the absence of this tick Southern cattle can be shipped North at any time of the year with perfect safety to Northern stock, and that if ticks are removed from the pastures Northern cattle can live in the South. As the carrier of the virus is known, the disease can be prevented.

The discovery of the cause of this affection and its method of dissemination has led to most important results. Several of the Southern states[21] have introduced methods of immunizing Northern cattle that were shipped into the South for breeding purposes, and more recently the government has undertaken to eliminate the cattle-ticks, thereby eradicating the disease. The value of the experiments which made possible these results to the live-stock industry, and which cost but a small number of animals, cannot be estimated, either in dollars or in the suffering of thousands of cattle they have saved.

### TUBERCULOSIS

Of the diseases of cattle there is perhaps no other that causes as heavy losses as tuberculosis. This affection was known in very early times, but its means of spreading was very limited owing to the small traffic in cattle. In the nineteenth century it had become, however, a source of great loss, largely because the people did not know its cause or how it was spread.

In 1865 Villemin[22] demonstrated, by inoculating healthy animals with tuberculous tissue, that tuberculosis was a communicable disease. In 1882 Robert Koch,[23] after repeated experiments on animals, discovered and isolated its specific organism. But for these and similar experiments, we should still be totally in the dark as to the cause of this disease and unaware of its communicability from animal to animal, or from animal to man.

The importance of these discoveries is too great for ready comprehension. Tuberculosis, while not characterized as an epidemic or epizootic disease, is estimated to be the cause of 14 per cent. of all the deaths in the human family, while from the post-mortem examination of the cattle slaughtered in the abattoirs of ten foreign cities and countries[24] cattle averaging nearly 18 per cent. have been reported to be tuberculous. In the United States it is estimated that probably 10 per cent. of the dairy cattle in the country are affected with tuberculosis. Dr. Melvin estimates further, on carefully collected data, that tuberculosis of food animals costs this country $14,000,000 annually. Several herds have come to my notice in which on post-mortem examination from 75 to 90 per cent. of the animals were found to be diseased.

In order to determine the extent to which the disease has spread, I have collected and compiled the results of a number of tests made during the last two or three years, but largely in 1907, by a considerable number of veterinarians to whom the New York State College furnished tuberculin. The results show that of 421 herds tested 302 contained reacting animals.[26] These herds contained a total of 9,633 animals, of which 3,432 reacted. The official tests by the New York Department of Agriculture for the years 1904-6 inclusive, kindly furnished me by Dr. Kelly, include 262 herds with a total of 3,088 animals, of which 673 reacted. They were distributed in fifty counties. These herds all came under the operation of the law. Infected animals were found in one hundred and twenty-one herds.

Sanitarians have recognized the danger of human infection from the consumption of milk from tuberculous cows, and the presence of much tuberculosis in pigs and calves fed on such milk is a practical demonstration of the transmission of the virus through this medium. The conclusion by many investigators is that from 1 to 2 per cent. of human tuberculosis, especially the glandular form, is of bovine origin.[27]

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[20] Smith and Kilbourn: Bull. 1, Bureau of Animal Industry, U. S. Dept. Agric., 1893.

[21] Francis and Connaway: Bull. 35, Texas Agric. Exper. Station, 1899; Connaway: Bull. 37, Missouri State Board of Agric., 1897; Dalrymple, Nirrgan and Dodson: Bull. 51, Louisiana Agric. Exper. Station, 1898.

[22] Quoted by Hutyra and Marek: Spezielle Pathologie und Therapie der Haustiere, i, 472; original article by Villemin in Bull. Acad. Sc., Paris (1865-6).

[23] Koch: The Etiology of Tuberculosis, Mitt. a. d. Gsndhtsamte, 1884, ii; Tr. New Sydenham Soc., 1886, p. 67.

[24] Statistics Collected by Freeman: Med. Rec., March 28, 1896, p. 433. In detail they are: Berlin 4.57, Munich 2.44, Augsburg 2.44, Mulhausen 3.4, Hanover 60 to 70, France 5, Paris 6, Holland 20, Pomerania 50, Mexico 34 per cent.

[25] Melvin: The Economic Importance of Tuberculosis of Food-Producing Animals, Proc. Sixth Internat. Cong. on Tuberc., 1908, iv, 504.

[26] Moore: Bull. 250, Cornell Univ. Agric. Exper. Station, 1908, p. 286.

[27] Smith: Med. News, New York, 1902, lxxx, 343; Tr. Massachusetts Med. Soc., 1907.

There is a large literature on this subject. The report of the Royal Commission on Tuberculosis and the Proceedings of the Sixth International Congress on Tuberculosis are especially recommended for information on the transmission of bovine tuberculosis to man.

The cause of this disease, the manner of its dissemination, and the means (tuberculin test) by which it can be detected in its early stages, have been discovered by animal experimentation. The remaining step is to determine the best method for the elimination of the diseased animals. When this is ascertained, and the existing centers of infection removed, the enormous losses now annually sustained by deaths from this malady ought practically all to be averted. Judging from the known facts, it is highly probable that if attention had not been called to this disease in cattle, and a method for its early detection discovered, it would have become a more universal and destructive plague of cattle than any other that has yet visited the animal kingdom.

### OTHER DISEASES

There are still other diseases of an epizootic nature that are worthy of mention and also those frequently of great local interest, which have been investigated by means of animal experimentation and robbed of much of their former terror. Blackleg and tetanus or lockjaw are prominent among these. Further, there are the animal parasitic diseases, such as trichina in pork, fluke diseases of cattle and sheep, and the tapeworm diseases of sheep. A nodular disease of the intestines of sheep[28] due to a small round-worm and one in fowls[29] due to a tapeworm were once supposed to be tuberculosis, and in the effort to eradicate them many animals were sacrificed. A disease in cattle known as the cornstalk disease, which was thought, especially in Europe, to be contagious and therefore requiring rigid quarantine, has been shown to be due to local causes and in no way transmissible from one animal to another.[30] Surra[31] was recently kept out of this country, although it was brought to our shores, because a diagnosis was possible by means of animal inoculation. Much light has been shed on the infectious diseases of poultry, such as "blackhead" in turkeys and diphtheria and tuberculosis in chickens. A new disease of fowls, a filth disease, which is frequently called fowl cholera, has been discovered and can be prevented by the adoption of a régime of cleanliness, wholesome food and ventilation. Recently Mohler has identified a serious disease of sheep, which affects the lips and legs and which was thought to be foot-and-mouth disease, as an infection with the bacillus of necrosis. While it is of much local concern, the animal inoculations proved that it was not the much-dreaded epizootic foot-and-mouth disease. Attention should also be called to the great importance of animal investigations now in progress on various serums, toxins and antitoxins, for the purpose of securing efficient remedies for the various infectious and epizootic diseases.

In zootechny, or experimentation for improving breeds of domesticated animals, the investigations have been of unquestioned importance to the agriculturists. Whatever the views on breeding may be, no one doubts for a moment that the modern breeds of farm animals are a great improvement over the original and native stock. While the natural resistance of these animals against infectious diseases may have been appreciably lessened from that of the native stock, the knowledge we possess of how to keep these diseases away from our flocks should encourage future experimentation for the purpose of raising better and swifter horses; cows to give more and richer milk; sheep to yield finer wool and more of it; and swine to grow more pork per bushel of corn.

### FURTHER INVESTIGATIONS NECESSARY

A study of the efforts which have been made for the suppression of infectious diseases of animals both in this country and abroad shows that, while wonderful advances have been made, the desired results in many instances have not been fully attained. There are those who, ignorant of what has been done, and equally ignorant of what there remains to do, question the necessity for further investigations. Great as have been the achievements in the past, it must be evident to every well-informed and unprejudiced mind that still greater achievement—greater whether measured by relief of suffering or by financial gain—are within reach in the near future. The benefits to agriculture and mankind in general which have accrued from the investigations of the past are no nearer their maximum limits of success than was the practical application of steam when Fulton built his first steamboat. Knowledge of the diseases of animals made little growth until the development, by means of repeated experiments on animals, of the newer pathology, which tends to reveal the nature of these affections, thereby pointing to methods for their control. In spite of all that has been done, practical preventive medicine has barely passed its infancy, and the important investigations into the so-called general diseases and dietary disorders have hardly begun.

The demands for further investigations were never more pressing than they are to-day. If they are checked we shall experience in this country what Great Britain has already suffered. Owing to a crusade which finally found expression in a parliamentary enactment, animal experimentation has been so crippled in Great Britain that the country which should have done the most by virtue of her wide geographical possessions and vast live-stock interests for the improvement of methods of preventing and controlling infectious diseases, has done practically nothing. I quote from one of England's foremost veterinarians[32] in a plea for animal experimentation:

> *No country in Europe has, possibly, sustained greater loss* during the last thirty-five years than our own; yet no country, perhaps, should have suffered less. With the finest breed of horses, and the most magnificent herds and flocks in the world, and a teeming population, whose health and wealth are largely centered in these, we have entirely neglected to protect them from the ravages of disease of home and foreign origin, by forgetting to foster and encourage that science which alone can accomplish this. That neglect has cost Great Britain and her colonies untold millions.

Furthermore, experiments which have demonstrated important facts to us are not always accepted by others unless they can be and are verified. There is in human nature an inherent demand for visible proof. In order not to retard progress, it is often necessary that the doubting Thomases should be convinced, and the only way to accomplish this is by repeating what has already been done. This is always necessary in teaching those who are to continue the work of controlling animal diseases. In other words, a certain amount of experimentation must be carried on as a means of education.

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[28] Curtice: Animal Parasites of Sheep, U. S. Dept. Agric., 1890, p. 165.

[29] Moore: Circ. 3, Bureau of Animal Industry, U. S. Dept. Agric., 1895.

[30] Moore: Bull. 10, Bureau of Animal Industry, U. S. Dept. Agric., 1896; Mayo: Bull. 49, Kansas Agric. Exper. Station, 1895.

[31] Mohler: 24th Annual Report B. A. I., U. S. Dept. Agric., 1907, p. 34

[32] Fleming, George: The Contagious Diseases of Animals; Their Influence on the Wealth and Health of the Nation, and *How They are to be Combated.*

In the practice of veterinary medicine and veterinary sanitary science, it is often necessary, for purpose of diagnosis, to make inoculations immediately. At such times every hour of delay may mean the death of many animals. In charity to dumb creation itself, therefore, there should be no restrictions to delay the work.

In order to make diagnoses, to prepare vaccines and antitoxins with which to better the conditions of animals, it is necessary that animal experimentation be continued. It is the only humane thing to do. If this work were checked, it would entail a vast amount of needless suffering on animals exposed to the various infections, and threaten the prosperity of the animal industry of the country. To spare the very few experimental animals necessary in procuring life-saving results would require annually the sacrifice of tens of thousands of other and more valuable animals to all sorts of infectious diseases. The time has come when every humane individual must protest against interference with animal experimentation.

Most animal experimentation does not inflict great suffering. Anesthetics are freely used, and experimenters do not permit unnecessary pain. In most cases the animals used in experimentation have a more comfortable life and a far easier death than those that have the freedom of Nature and allowed to perish by the so-called natural diseases. Those who have witnessed the prolonged suffering endured by large numbers of wild animals that die from chronic diseases will verify this statement. The pain inflicted in those experiments in which anesthetics cannot be administered is not usually greater, and is often much less, than that resulting from the violent death experienced by many animals in their natural surroundings. No one who has observed the suffering of animals while they are dying with one of their many natural diseases, or because of the cruelty of beasts of prey, can feel that animal experimentation, as practiced in recent years, imposes as cruel a death as do the unalterable laws of Nature. The objectionable vivisection practiced in earlier days in veterinary colleges no longer exists.

When, therefore, the subject of animal experimentation is considered broadly, and in the light of natural laws which give a limited life period and certain death to every individual, it resolves itself into the simple question: Shall the lives of a few animals be shortened because of experimentation? Men and women are allowed wantonly to shoot and trap innocent animals and birds simply to gratify an appetite for brutal pleasure, or to procure furs and plumes for adornment and use. We permit unlimited slaughter of young animals for human food; why, then, should we hesitate to shorten the lives of a few that thousands of others may be protected from disease and suffering? The investigations involving animal experimentation have the broadest economic and humanitarian value, and they therefore should not be retarded by misguided sentimentalism.

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# THE ETIOLOGIC CONTROVERSY REGARDING PELLAGRA

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> Who shall decide, when doctors disagree,
> And soundest casuists doubt, like you and me?
> *Pope, Epistle to Lord Bathurst.*

Since the inception of the discussion relative to the disease pellagra, which now occupies the attention and interest of the profession and the country at large, especially the South, much has been said and written concerning the malady. While on the whole the contributions contain much that is valuable, yet into the published reports of these investigations have crept many errors and divergencies, notably with respect to the etiology. The interest in the disease is apparently so extensive that I believe that I am justified in offering the subjoined review of the findings and theories of those members of the profession whose labors on the subject have justly caused them to be regarded as foremost authorities.

The expressions of the early clinicians who in dealing with this disease likened it to rare and little known forms of lues, leprosy and scurvy, while of some slight importance from the standpoint of comparative diagnosis, are only of historic interest to-day and a tribute to their labors, however unproductive. Benvenisti, Sprengel, Della Bona and Huester,[1] all of whom regarded it as a degenerate form of leprosy, as we know to-day, erred in their diagnoses. Pellagra is at this date regarded as a distinct disease, possessing morbid phenomena peculiar to itself. Those few students, among them Cecconi[2] and Le Fers,[3] who believe the disease to be a symptom-complex or *morbus miseriæ* and regard the different symptoms as prodromal of some condition other than pellagra, are fortunately in the minority, and the evidence on the subject is almost conclusive that the members of that group are laboring under a false impression. Creighton[4] says: "That pellagra is not a *morbus miseriæ*, pure and simple, wanting some more and specific cause, will be at once apparent when we consider that the misery of living is as old as the human race, whereas pellagra is a disease of the last hundred years or so, and that in Ireland, Russia, Upper Silesia, Galicia or other headquarters of the *morbus miseriæ*, pellagra is unknown."

The study of pellagra has resulted in the development of several classes of students, of which at this time we are chiefly concerned with two—the zeists and the antizeists. The zeistic advocates, while treating corn as the causative factor, in the main hold radically different views as to the means by which the disease is superinduced; that is, whether it is due to (a) deficiency in the nutrient value of the maize; (b) the existence of a definite toxic substance in normal maize; (c) postingestive elaboration of toxins; (d) elaboration of toxic substances during the decomposition of maize; or (e) bacteria, molds or protozoa. The antizeists decline to accept the corn theory, averring, on the contrary, that the cause may be other than the use of corn; they cite very forceful, though not so authentic, arguments against it. The antizeists are evidently influenced by the work of such men as Sambon and Manson, who are rather inclined to believe the disease to be protozoal in its nature.

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[1] Sambon, Louis W. (quoting the other authors named): Brit. Med. Jour., 1905, ii.

[2] Cecconi, H.: Erythèmes pellagreux et érythèmes pellagroides. Thèse, Paris, 1903.

[3] Le Fers, F. L. M.: La pellagre des Landes dans le passé et dans le présent, Thèse, Bordeaux, 1907.

[4] Creighton, Charles: The Encyclopædia Brittanica, Ed. 9, xviii, 476.

It is not too much to say that our knowledge of the causation of pellagra is purely conjectural. Despite the vast amount of work done by prominent investigators since the year 1776, when the *Società Patriotica di Milano* offered a prize for the determination of the cause of the disease and a means of combating it, the real cause appears to-day to be as remote as at any time in the past. The ultimate cause of pellagra is unknown. The almost universal belief is that there is some distinct relation between the use of corn as food and the appearance of the disease. This opinion, though built on purely circumstantial evidence, is too profound and deep-rooted to permit of rejection, except in the case of demonstrative proof to the contrary. What this exact relationship is or the precise manner in which the ingestion of the damaged maize proves itself the etiologic factor, has not yet been determined. Whether the disease is an ordinary intoxication (toxicochemical), an autointoxication (toxico-infectious), or a specific infection caused by bacteria, molds or protozoa, is also a matter which awaits solution. Apart from the view that damaged maize is the definite causative agent, there must be considered those conditions which tend to lower vital resistance and thus prove an indirect, though important, etiologic factor in the causation of the malady. The conditions referred to are alcoholism, excessive venery, lowered resistance (through previous illness, especially lues, malaria and ankylostomiasis), lack of nourishment, illiteracy, lowered moral atmosphere, poor hygienic surroundings, and the general conditions which usually accompany poverty and ignorance. Rohrer[5] believes that chronic diarrhea and dysenteric disorders, especially of an ulcerative type, can also be regarded as possible predisposing causes. He further adds that impure drinking-water may bring about these intestinal lesions and thus open up avenues of entrance for infection with pellagra.

That the effect of the actinic rays has some remote bearing on the disease, especially the cutaneous lesions, is not improbable. Gherardini[6] varied the usual systematic arrangement of the erythema seen in pellagra by displacing certain parts of the wearing apparel; and Hameau[7] obtained differently shaped patches of erythema by fenestrated gloves. Kreibich[8] has found that at the onset of summer sunlight affects the skin, which may become thickened and pigmented. These facts offer sufficient evidence that the actinic rays are not to be entirely disregarded, especially as to the production of the erythema, when considering the etiology of pellagra.

Notwithstanding that damaged maize is looked on as the incriminating factor in the production of the malady, we must bear in mind that sound maize is a food possessing high nutrient value, and to eliminate it from our dietary would not only be unscientific, but absurd.

Scores of investigators have at various intervals proclaimed the discovery of the cause of pellagra. Hardly had their announcements been made than subsequent investigators discredited their findings. The laboratory findings of one investigator were never confirmed by those of another. Thus, to-day we have an endless array of those who claimed at one time or another to have discovered the etiology of pellagra. From corn many things have been extracted and held responsible for the production of pellagra. Selmi[1] demonstrated the presence of ammoniacal acrolein in damaged maize; Pellogio[1] (1876) extracted from spoiled maize an acrid substance which gave rise to symptoms of paralysis; Hansemann[1] extracted from diseased maize a narcotic tetanic toxin, to which he gave the name "maizina"; Monselice[1] (1881) analyzed various substances collected from damaged maize and was unable to find any alkaloid. He called attention also to the fact that there was a difference between artificially fermented maize and ordinary damaged maize. Tardieu[9] claimed that pellagra was caused alone by cryptogenetic changes in this grain, but admits, with Bouchardet,[10] that different cereals, such as maize, may be attacked by verdet or blight. Gintrac[11] also admits that if altered maize is not the only specific cause of pellagra it at least contributes greatly to the introduction of the malady in subjects of ill-nourished constitutions and living amid poor hygienic surroundings. It was Gintrac[11] who pointed out to Landouzy[12] the divergencies between the pellagrous erythema and the erythema of other conditions.

The theory as to the nutritive deficiency of maize was first advocated by Giambattista Marzari[13] about 1810, when he called attention to the probable relation between maize and pellagra. He stated that corn, and especially the poorer qualities of it, lacked sufficient gluten to make a good food and was, therefore, the true cause of pellagra. Strambio, the elder,[14] was of the same opinion as Marzari and asserted that the corn was deficient in nitrogen because it was sown late and gathered green. Lusanna and Frua[15] and others later were of the same mind as Marzari and Strambio, though their efforts to prove that pellagra was due to lack of nutrient material in maize were futile. Costallat[16] considered pellagra as due to slow poisoning from maize attacked by blight, which rendered it unfit for food in that it was deficient in gluten. He said that the maize was attacked by a mushroom parasite under the episperm of the maize, which became admixed with the starch of the grain.

The idea that sound maize contains certain toxic substances which cause pellagra is now a discredited theory, by reason of the fact that pellagra is absent in so many places where maize is and has been for long periods extensively raised and used as food. The experiments of Lucksch[17] at Leipsic, in 1906, tend to show that an exclusive diet of cornmeal, even of good quality, when fed to animals (guinea-pigs, rabbits and dogs) over a long period of time, would produce emaciation, intestinal catarrh and, in the case of pigs, loss of hair, flaccid paralysis—symptoms, it must be confessed, suggestive of pellagra. Yet these experiments are not at all conclusive, for the question of personal susceptibility and idiosyncrasy must be taken into consideration. Then, again, if a man, or even an animal, lives on carbohydrates alone, the nitrogen necessary for metabolism must be derived from his tissues, and so far as this element is concerned he suffers from inanition. It is a well-known physiologic axiom that for the maintenance of healthy nutrition a proper combination of alimentary principles is absolutely necessary, no one class being capable of maintaining metabolic equilibrium for any definite period.

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[5] Part of the transactions of the National Conference on Pellagra, held at Columbia, S. C., Nov. 3 and 4, 1909. Special abstract in THE JOURNAL A. M. A., Nov. 13, 1909, liii, 1659. A brief summary of all the papers read at the conference may be obtained in the *Public Health Reports* of Nov. 12, 1909, xxiv, No. 46. The complete transactions of the conference will soon be published under the auspices of the South Carolina Board of Health.

[6] Gherardini, Michael: Descrizione della pellagra, Milan, 1780.

[7] Hameau: De la pellagra des Landes. Bull. de l'Acad. de méd., ii, 7; x, 790.

[8] Kreibich: Wien. klin. Wchnschr., 1904, p. 1459.

[9] Tardieu, Ambroise: Pellagre, Dictionnaire d'hygiène publique et de salubrité, Paris, 1854, pp. 38 to 48.

[10] Bouchardet: Pellagra, Lancet-Clinic, Sept. 18, 1909, p. 310.

[11] Gintrac, H.: Dictionnaire de médecine par E. Littré et Ch. Robin, Paris, 1865, Ed. 12, p. 1112.

[12] Landouzy, M. H.: De la pellagre sporadique, Paris 1860; Deuxième leçon clinique, Précédé de l'examen de quarante pellagreux réunis à l'Ecole de médecine, Paris, 1861.

[13] Marzari, Giambattista: Saggio medico-politico sulla pellagra, Venezia, 1810; abstr. from Osservazioni del Dr. Cerri, intorno al saggio medico-politico sulla pellagra, Milan, 1811; Memoria sopra la pellagra, Venezia, 1815.

[14] Strambio, Cajetan: De pellagra; observationes in regio pellagrossorum nosocomi factae a calendis anni 1784, usque ad finem anni 1785, Milan, 1785 (i), 1787 (ii), 1789 (iii); En allemand, par Charles Weigel, Leipsic, 1796.

[15] Lusanna and Frua: Su la pellagra, Milan, 1856.

[16] Costallat, A.: Réponse du Dr. Costallat à la lettre du Dr. Peyramale inséré dans le numero du 28 Avril 1860, du Journal de l'intérêt public de Tarbes, à propos de la pellagre, Tarbes, 1860; No es la pelagra, le enfermedad conocida en España con el nombre de flema salada, Madrid, 1861.

[17] Lucksch: Ztschr. f. Hyg. u. Infectionskrankh., 1908, pp. 479-486

The toxico-infective theory is that from spoiled maize there is formed within the body certain toxic substances and that the infection is of an endogenous nature. Forcher[18] and Roussel[19] asserted that it was a disease of the corn itself which produced the toxin. Sturli's[20] conclusions are summed up in the following words: "We have to deal with an intoxication, most likely exogenous," and he adds that the toxic agent gains admission to the human organism with vegetable food.

### FUNGI

Vincenzo Sette,[21] in 1826, was the first writer to declare that the main cause of pellagra was a fungus, "scimelpige," growing on maize, which, according to his theory, produced an acid decomposition of the oils of "zein" of the corn; and from this have sprung the latter-day theories of the zeists and the toxizeists. The toxizeists consider corn pathogenic in so far as injurious substances are able, under outside influence, to develop on it.

Ballardini,[22] in 1845, asserted that the disease was due to a living organism, a mold (hyphomycete), *Sporisorium maydis*, which he found in the greenish stain (*verderame*) frequently seen in the germ groove of maize grains. Lombroso[23] directed attention to the rarity of the sporisorium, and for that reason believed that it was not the cause of pellagra, but was of the opinion that Ballardini had confounded the *Sporisorium* with the *Penicillium glaucum*. Notwithstanding that a special commission reported against the probable correctness of his theory, Ballardini had many adherents both in Italy and France, notable among whom, in France, were Roussel and Costallat.

In the year 1860 Pari[24] attributed the disease to the maize smut, *Ustilago maydis*. Parsons[25] analyzed ustilago or corn smut and obtained an acid which he temporarily entitled "sclerotic acid," because of its apparent similarity to the acid (one of the active principles) found by Draggendorf in ergot. The *Ustilago maydis* was described also by Imhof.

Ceni[26] in 1902 asserted that the disease was nothing save an infection engendered by two molds, *Aspergillus fumigatus* and *flavescens*, and that the condition was a true aspergillosis. Grohe, Block, Grawitz, Koch and Gaffny, Baumgarten and Miller, Kauffman and others[1] produced experimental aspergillosis and obtained results differing from those secured by investigators who claimed to have produced pellagra. Lichtheim[1] pointed out that these differences were due to the fact that not all species of aspergilli are pathogenic and he called attention to the harmless aspergilli, *glaucus, niger* and *repens*, and the toxic, *fumigatus, flavescens, subfuscus, nidulans* and *malignus*. The *Aspergillus flavescens* has frequently been found in the human ear. In February, 1883, Dr. L. H. von Gohren[27] reported a most interesting case of "otomycosis aspergillinia," in which there were large epithelial casts mixed with vegetable parasites, the latter revealing themselves under the microscope as forms of aspergillus. They were accumulated near the tympanum, and that membrane itself was dotted with insular groups of these fungi. Workers in grain or flour frequently suffer from a pneumomycosis aspergillinia, due to the grain or flour being contaminated with the *Aspergillus fumigatus*. Ceni asserts that the spores of the aspergilli ingested with food escape through the intestines and settle in the lungs, pleura, pericardium and pia mater, from which places he has been able to isolate them at necropsy. He states also that the aspergilli attain their greatest toxicity at that period of the year when pellagrous symptoms are most predominant and that this seasonal manifestation corresponds to the "cycle of annual biologic evolution of these hyphomycetes."

Later, in association with Besta,[28] and apparently disregarding his previous observation, he ascribed pellagra to toxic substances, elaborated by the *Aspergillus fumigatus* and *flavescens*. This is a virulent and a characteristic toxin which exists almost exclusively in the spores, and Ceni determined that the media on which they grow has but little to do with its production. More recently the same investigators describe two varieties of *Penicillium glaucum* as the causative agents of pellagra. One variety, it is declared, is responsible for the acute form, and the other for the chronic form of the disease. In a space of eight years Ceni and his coworkers have announced at three different intervals that they had determined the cause of pellagra, each time incriminating some new agent. Up to the present time none of either Ceni's or his associates' theories have been corroborated. Notwithstanding that Ceni and Besta relegated the aspergilli to obscurity and espoused the presence of the *Penicillium glaucum* as the causative agent, Rohrer,[5] even at this late day, says: "It is generally conceded that the disease is caused by the *Aspergillus fumigatus*, and that the cases occurring in the fall may be due to the *Aspergillus flavescens*." Serena,[29] in 1900, remarks that the substances which are responsible for pellagra are the products of schizomycetes and not hyphomycetes.

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[18] Forcher: Read in conjunction with work by Roussel.

[19] Roussel, Théophile: De la pellagre, Paris, 1845; *Bull. de l'Acad. de méd., xii, p.* 929; De la pellagre et des pseudo-pellagres: étiologie de la pellagre proprement dite, Gaz. hebd. de méd., Paris, 1866, iii, 5.

[20] Sturli: Ueber die *Aetiologie de* Pellagra. Verhandl. d. Gesellsch. deutsch. Naturf. u. Aertze (1905), Leipsic, 1906, Part 1, 269.

[21] Sette, Vincenzo: Quoted by J. H. Randolph: Some Notes on Pellagra and Pellagrins, Jour. South. Med. Assn., July, 1909.

[22] Ballardini: Della pellagra del grano turco quale cause precipua di quella malattia e dei mezzi *per arrestarla*, Ann. Univ. di. Med., Milan, 1845, cxiv, 5, 241.

[23] Lombroso, Cesare: Sull' eziologia della pellagra, R. Ist. Lomb. di sc. e lett., Rendic., Milan, 1871; Trattato profilattico e clinico della pellagra, Turin, 1892; Die Lehre von der Pellagra, 1898; transl. into German by Kurella.

[24] Pari, A. G.: Essenza della pellagra degli agricoltari; nuovi studi teorico pratici—estechi *anche ad* una effetina pellagra scolastica, dirette alle inclite amministrative autorita, Udine 1864; Risporte alle domande ed al desiderei del Dott. Giustinano Grosoli sulla teorico della fungiuizazione *nella* pellagra, spallarzini, Modena, 1873.

[25] Parsons: See letter.

[26] Ceni, C.: Gli Aspergilli nell etiologia e nella patogenesia della pellagra, Riv. sper. di freniat., 1902, xxviii, 149.

[27] Von Gohren, L. H.: A Case of Otomycosis Aspergillinia, New Orleans Med. and Surg. Jour., February, 1883.

[28] Ceni, C., and Besta, C.: Principe tossici degli *Aspergilli fumigati* e *flavi* e loro rapporto colla pellagra, Riv. sper. di freniat., 1902, xxviii, 528.

[29] Serena, M.: Sui veleni ed antiveleni del mais guasto, Ann. d'ig. sper., Roma, 1900, New Series, x, 39.

The general trend of all the investigations pursued by the European students of the disease appears to favor the *Penicillium glaucum* as the causative agent. That this should be so is most extraordinary, for the simple reason that it is the most common mold and is found everywhere and has a most varied distribution. This mold has played for the plant physiologist the same rôle that the frog has played for the animal physiologist, and has even been shown to grow on the most unlikely poisonous substances, e. g., solutions containing arsenic, copper and sulphuric acid. It is also an active agent in the destruction of wood. It does not show any particular choice in the selection of media. Maggiore and Gradenigo[1] found it within the Eustachian tube in two cases of otitis. Sandwith[5] says that there is a considerable consensus of opinion toward incriminating the *Penicillium glaucum* and that the majority of Italian literature dealing with the disease look on this fungus as the most possible cause.

Gosio[30] maintained that the commonest saprophyte of maize was the *Penicillium glaucum*, and after the preparation of a pure culture from this fungus he extracted a substance belonging to the aromatic series. Ferrati[30] experimented with a tincture of the penicillium and of the damaged maize and found it to be exceedingly toxic to rodents. De Pietro[31] observed that only a certain variety of *Penicillium glaucum* had poisonous properties and that the toxic substances did not appear before the third day; and that it was a glucosid and was found only in the spores, and had nothing to do with the culture media. De Pietro's experiments on animals produced symptoms different from those obtained by Lombroso in his experiments. Both, however, considered their cases as being pellagra, despite the dissimilarity of symptoms. Fossati,[32] in 1904, declared that he had produced pellagra by inoculating guinea-pigs with maize damaged either by *Aspergillus fumigatus* or *Penicillium glaucum*.

Constantin von Deckenbach,[33] of Jena, in 1907, in further investigating the relation between maize and pellagra, confirmed his former experiments and those of Tiraboschi[34] in 1905, and as a result is convinced that the fungus, *Oospora verticilloides* (Saccardo), which was found parasitic on the living maize plant and which produces a disease of the plant, is as important a factor in the production of pellagra as *Claviceps purpura* is in the causation of ergotism. Tiraboschi, who made a very careful study of the hyphomycetes, found on maize grains in pellagra districts, states that he never found *Aspergillus flavescens* and believes that Ceni and Besta must have confounded it with *Aspergillus varians*, which is very common.

Minor[35] is led to remark that, after reading a chapter of Ozanam's work, entitled "Histoire médicale des maladies épidémiques," it is a wonder that no clinician has called attention to the many points of clinical similarity between pellagra and ergotism. Searcy[36] says:

> In studying pellagra I have often been impressed with the similarity of the disease to ergotism. The onset, course and much of the symptomatology of pellagra resemble gangrenous ergotism in a good many respects, and knowing that gangrenous ergotism is caused from eating a fungus growth on rye, one would naturally think pellagra was caused by eating some such substance on corn. In looking for such a fungus I find smut (ustilago) resembles the ergot of rye very much. They are both fungus growths, which develop their spores in the ovary of the host plant and grow out in spurs, taking the place of grain. It would seem logical to call corn smut ergot of corn, just as you see ergot of rye, ergot of wheat.

In 1871 Lombroso[23] announced that pellagra was an intoxication, not an infection, caused by the ingestion of certain toxic substances which were elaborated in the parenchyma of the damaged maize by some form of saprophytic life. These toxins he held responsible for the disease. In association with Dupré, Erba and Brugnatelle, he extracted from maize undergoing fermentation a watery extract, an alcoholic extract, and a red oil, by means of which he declared that pellagra symptoms could be brought about in man and animals. He maintained that there were two different toxins, and the combination of the two was sufficient to produce pellagra in the same manner as sphacelinic acid and cornutin are believed to give rise to ergotism. The two poisons are (a) a narcotic substance somewhat similar to conium contained in the aqueous extract and (b) an alkaloid very much like strychnin, which is obtainable from both the alcoholic extract and the oil, which he entitled "pellagrozein." Lombroso inoculated fowls with these poisons and was able to produce the following symptoms: diarrhea, loss of feathers, wasting and death; in rodents, wasting, choreiform movements, muscular spasm and death; in men, emesis, diarrhea, desquamation of the epidermis, giddiness, dilated pupils and evidences of inanition.

Lombroso's theory is the most popular and current one to-day and is best known as the "verdet" theory. Manson[37] remarks: "These acute symptoms are in no way comparable to pellagra; identical results follow the administration or inoculation of analogous substances prepared by similar methods from wheat and other harmless foods."

Recent experiments conducted at the University of Illinois[5] indicate the most common cause of the disease of the ears of the corn to be a kind of diplodia, and this, along with aspergillus and penicillium, has been advanced as a cause of pellagra. There are well-founded instances of animals suffering from a toxemia superinduced by an excessive corn diet and also by a diet of corn gluten infected with molds. There is no doubt that there are several kinds of disease in some manner attributable to corn; but pellagra must be due to one and not to several kinds of corn-poisoning. Toxins may be developed in the intestines by fungi or bacteria as a result of a corn diet. Bonservizi[38] says that pellagra is frequent in Mantua owing to the moldy polenta eaten cold. He accounts for the scarcity of the disease in the mountainous regions of the Umbria by the fact that the polenta is eaten warm there. Recent experiments on molds have proved that none found could survive the heat of cooking. Of course, this does not exclude them as a cause of pellagra, but does it not make them seem less likely?

Majocchi,[1] in the year 1881, attributed the malady to the *Bacterium maydis*, a very motile micro-organism which he found in both good and bad corn. Claiming to have found this organism in the blood, brain, liver, heart, kidneys, lungs and intestinal mucosa and in the cutaneous lesions, he ascribed the causation of the disease to it. Cuboni,[39] at a later date, found the same micro-organism in spoiled maize, the stools of pellagrins and the stools of healthy persons. Paltauf, in 1889, while employed by the Austrian government, in investigating the disease, examined fifteen subjects and found the micro-organism of Cuboni in the stool of but one pellagrin. In association with Heider,[39] he proved that maize toxins were due to certain changes induced by this organism. It is manifest that both Majocchi and Cuboni erred in their observations and that they had incriminated the ordinary potato bacillus (*Bacillus solanacearum*).

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[30] Gosio and Ferrati: Sull'azione fisiologica dei veleni del mais invasi da alcani infomiceti; contributo all' eziologia della pellagra, Riv. d'ig. san. pubb., Roma, 1896, vii, 961.

[31] De Pietro, M.: Sui veleni di alcune muffe (contributo all' eziologia della pellagra), Ann. d'ig. sper., Roma, 1902, New Series, xii; Glucosidi di elevato potere tossico trovate nelle spore del Penicillium glaucum (Contributo all' eziologia della pellagra), Riv. pellagrol. ital, 1902, ii, 63.

[32] Fossati, G.: Contributo allo studio della etiologia e patogenesia della pellagra, Bull. d. Soc. *med.*-chir. di Pavia, 1904, 140-7.

[33] Von Deckenbach, Constantin: Centralbl. f. Bakteriol., 1907, xiv, 507.

[34] Tiraboschi: Osservazioni. Riv. pellagrol, 1906, vi, 78.

[35] Minor, Thomas C.: Pellagra, Lancet-Clinic. Sept. 18, 1909.

[36] Searcy, George H.: Pellagra in Southern States, New Orleans Med. and Surg. Jour., lxi, No. 6.

[37] Manson, Sir Patrick: Tropical Diseases, Ed. 4.

[38] Proc. Third Ital. Pellagrol. Cong., Milan, September, 1906; abstr. in Thirteenth Ann. Rep. Egyptian Hosp. for the Insane, Cairo, 1908, pp. 55-59.

Carrarioli,[40] in the year 1896, reported finding a bacillus in the blood, stools and saliva of pellagrins, and to this organism he gave the name *Bacillus pellagræ*. By the inoculation of the toxic products of this organism he claimed to have brought about symptoms which he likened to pellagra. His work, however, was not borne out by subsequent investigators. Pelizzi and Tirelli,[41] in 1894, made experiments on dogs and rabbits, administering by mouth or injecting subcutaneously or endovenously the toxic substances obtained from cultures of the bacteria of maize. The symptoms produced they considered characteristic of pellagra. Marie[42] is of the same mind as Pelizzi and assumes it to be logical that necessary "pellagra-producing" elements once in the blood, decomposition occurs through the influence of certain bacterial ferments ingested with the maize, and undergoes toxic metamorphosis. It was Marie who suggested that the pellagrous poison may be polytoxic.

Neusser[43] is inclined to the belief that in some cases there is formed in maize a certain mother substance, a non-toxic glucosid, largely under the influence of the *Bacterium maydis*, and that in the intestines this body undergoes decomposition, producing a toxic substance. This decomposition and succeeding toxic formation can occur only when the bowel is in an already damaged condition.

De Giaxa,[44] in 1903, following an earlier inspiration of Di Donna, attached great importance to the action of the colon bacillus on sound maize after ingestion. He claims to have produced the anatomic lesions of pellagra in dogs by feeding them on porridge made with sound maize and also to have obtained the same symptoms and lesions in animals with a toxin produced *in vitro* by the cultivation of the *Bacillus coli* in maize media.

Tizzoni, in association with Fasoli[45] in 1906, states that he isolated from the blood and organs of pellagrous patients in the fulminating stage of the disease a bacillus which he found in the guinea-pig and produced therefrom a very suggestive clinical picture and anatomic lesions not unlike pellagra. In the year 1907, with Panichi,[46] he conducted a series of experiments with guinea-pigs and rabbits. In 1909,[47] in a general summary of his previous labors, he announced the isolation of this same micro-organism from the stools and blood of chronic pellagrins as well as from spoiled maize. Two easily distinguishable and distinct strains of this bacillus are described by Tizzoni, and he thinks these strains correspond to the different grades of virulence, i. e., acute and chronic. To this organism he gives the name *Strepto-bacillus pellagræ*. Lavinder[5] was unable to isolate Tizzoni's *Strepto-bacillus pellagræ*, though he followed Tizzoni's technic in several cases. He states that by ordinary cultural methods and by experimentation on rats, guinea-pigs, rabbits and chickens he found the blood invariably sterile and non-pathogenic. As a result of his experiments Tizzoni arrived at the following conclusions:

> 1. The elective lesion is always in the intestine, which is always primarily involved.
>
> 2. The intestinal lesion is always followed by a specific general intoxication, especially manifested on the nervous system, blood vessels and red cells, and on the liver and kidneys.
>
> 3. The toxins elaborated always show a particular affinity for the nervous system, conducing ultimately to its profound disintegration.

Wood[48] states that he has isolated from the blood of a pellagrin in the active stage of the disease a bacillus which is very active and motile. He declares that, while his observations are not sufficient for a detailed report, he believes it highly probable that this is the same organism found at various times by Paltauf, Heider, Cuboni and Majocchi. If this be so, Wood has found nothing but the potato bacillus (which was discredited by Paltauf and Heider) and in addition repudiates the alleged *Strepto-bacillus pellagræ* of Tizzoni. He asserts that the organism he has found is similar to the one of Tizzoni, and accounts for the varying descriptions by reason of the organism having polymorphous properties, which Tizzoni so amply describes.

In the opinion of Aulde,[49] the cause of pellagra is to be found in magnesium infiltration, a pathologic condition in which there is depletion of the lime content of the nuclear proteid of the corn, bearing the same physiologic relation to that process which occurs in plant life when an excess of magnesium salts causes extinction and death of the protoplasm. His opinion is that the great preponderance of magnesium and the small amount of calcium is such as to produce the "disturbances of nutrition" exemplified in pellagra.

The antizeists believe that the cause of pellagra is to be found elsewhere than in the use of corn, and in support of their contentions advance many novel arguments, which should not, however, be too lightly dismissed, in view of our present state of uncertainty as to the definite cause of the disease. It was Sambon[1] who, in 1905, considerably strengthened the cause of the antizeists by his remarkable paper. It is stated that maize was in use as a foodstuff for at least two hundred years prior to the chronicled appearance of pellagra as such. Frapolli[50] maintained that the disease was as *"old as the sun"* and none other than pellarella, as would be seen by reference to the regulations governing admission of patients to the Hospital Major of Milan at that time. In a previous article,[51] I have endeavored, with success, I believe, to prove the fallacy of Frapolli's statement.

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[39] Cuboni, G.: Micromiceti della cariosidi di grano turco in rapporto colla pellagra, Arch. di psichiat., 1882, iii, 353; Paltauf, R., and Heider, A.: Der *Bacillus maidis* (Cuboni) und seine Beziehungen zur Pellagra, Med. Jahrb., 1888, Vienna, 1889.

[40] Carrarioli, A.: Sulla pellagra, Ufficiale san., Napoli, 1895, viii, 49.

[41] Pelizzi and Tirelli: Sull' etiologia della pellagra in rapporto alle sostanze tossiche prodotte dai micro-organismi del maiz guasto, Ann. di freniat., 1893-4, iv, 304.

[42] Marie, A.: La Pellagre, Paris, 1908.

[43] Neusser: Die Pellagra in Oesterreich und Roumanien, 8, Vienna, 1877; Untersuchungen über die Pellagra, Wien. med. Wchnschr., 1887, xxxvii, 132-135.

[44] De Giaxa, V.: Contributo alle cognizione sull' etiologia della pellagra, Ann. d'ig. sper., 1903, New Series, xiii, 367.

[45] Tizzoni, G., and Fasoli, G.: Saggio di richerche batteriologiche sulla pellagra, Mem. dell' Acad. dei Lincei, Cl. Sc., April, 1906, Series 5, Vol. 6.

[46] Tizzoni, G., and Panichi L.: Ulteriore richerche sperimentale sulla pellagra, Mem. dell' Acad. d. sc. dell' Ist. di Bologna, Sessione 24, February, 1907.

[47] Tizzoni, G.: Intorno alla patogenesia ed etiologia della pellagra, Estr. del Boll. d. Ministero di Agricoltura, Industria e Comercio, Rome, 1909.

[48] Wood, Edward Jenner: The Appearance of Pellagra in the United States, The Journal A. M. A., July 24, 1909, liii, 274.

[49] Aulde, John: Pellagra—An Inquiry, New York Med. Jour., Dec. 4, 1909.

[50] Frapolli, François: Animadversiones in morbum vulgo pellagram, Milan, 1771.

One of the most forceful arguments vaunted by the antizeists is the uncertain correlation between areas of maize cultivation and the endemicity of pellagra, many instances being given of places where maize is extensively cultivated and largely eaten and yet pellagra is practically unknown. An examination into the method of harvesting, milling and drying of the corn in these areas will disclose certain methods not practiced in pellagrous regions. The existence of uncontaminated spots in pellagrous districts is always easily explained. Lombroso found one of these spots in Friuli, the inhabitants of which lived almost exclusively on fish. Babes found one in Roumania—a village situated in pellagrous territory, the inhabitants of which were Russian skopts (who ate no corn), and another in a district burdened with 3,000 pellagrins—a village where the people lived for the most part on wheat bread. In Ireland and in Burgundy, France, pellagra is unheard of, though corn is extensively used in both countries; but in both Ireland and Burgundy corn is dried in ovens as soon as harvested. Vezzani[38] relates the case of the commune of Carpendolo, formerly gravely infected with pellagra, but now quite free from it, in consequence of the introduction of horse flesh as a popular food.

Many keen antizeists have called attention to the prevalence of pellagra in certain districts where maize is not cultivated and among persons who have never used maize as an article of diet. Hardy,[52] Schreiber,[53] Brown and Carruthers,[54] Brown and Low,[55] Slack and McCall,[56] and Van Wart[57] have reported cases of pellagra in which maize had not entered into the dietary. Kaposi[58] says:

> Schreiber, I and others have also seen cases of pellagra in individuals who had never eaten maize but had lived like "well-to-do city" people. As some of these patients had never worked in the sun, and as one of my cases came from Bohemia where pellagra is not endemic, it is evident that there are many points in regard to the disease which are still obscure.

In the province of Badajoz, in Spain, where cornmeal is not used, cases having all the symptoms of pellagra have been noted. Lombroso[38] says: "The statement that in Spain people suffer from pellagra, without using maize, is due to the ignorance of the doctors there." Slack and McCall[56] state that, notwithstanding the work of Tizzoni, they are unable to accept the corn theory, but advance the argument that if corn were the cause, the disease among the negroes would be much more common. Hyde* asserts: "It is certain that those who had never consumed corn have had pellagra," and further adds, "It is equally certain that experimental consumption of spoiled corn by man has not resulted in the development of the disease." Mongieri[38] says: "I have seen only two pellagrous patients at Constantinople in twelve years, though much maize is used there." The deputy director of the Egyptian Hospital for the Insane, in 1906, reports that out of 182 patients admitted from maize-eating districts, "172 were found to suffer from pellagra."

Sandwith[5] says:

> One of the objections to the diseased maize theory of causation is that cases are sometimes reported of pellagra occurring among those who have never eaten maize. In examining more than 1,000 cases of pellagra, I have of course, often met with individuals who stated that they were not maize-eaters, but on cross-examination every one of them pleaded guilty of having occasionally eaten bread which was partly made from maize flour. I therefore venture to suggest that any undoubted case of pellagra should be thoroughly questioned before we inculpate a second cereal, or attempt to overthrow the belief that diseased maize is a potent factor in the etiology. . . . Two cases of pellagra[54, 55] have recently been recorded in patients who had never been out of the British Isles, but the published accounts of the disease do not tally with the disease as I know it, though the symptoms were somewhat similar to pellagra. One of the patients had never eaten maize, but had devoured raw oatmeal and rice.

Sandwith offers the two following axioms which have proved true in Italy and Egypt and states that they will hold good in the United States as well:

> 1. Well-to-do people in pellagra districts, living on varied diet and consuming maize as an occasional meal, and not as the staple cereal, usually escape pellagra.
>
> 2. Pellagra distribution corresponds very nearly with the area on which human beings live who eat damaged maize, or products made from damaged maize.

Van Wart's[57] case of pellagra, with a history of a diet free from maize, afterward proved to be a doubtful one, as others who saw the case were inclined to believe that it was a case of alcoholic neuritis, as the patient was a dipsomaniac. In this case the ingenious argument was put forth that the patient might have drunk more corn than rye whisky.

Drs. C. C. Bass[57] and R. M. Van Wart[57] believe that cases to which corn cannot be ascribed as the cause are cases of pseudopellagra. It was Roussell[19] who coined this unfortunate term, "pseudopellagra," when he replied to the observations of Landouzy and others who reported a number of cases of pellagra in which there were no histories of corn in the diet of the victims. Lavinder[60] says: "This term, pseudopellagra, has itself been the cause of confusion to some and an object of ridicule to others." Manson[37] holds the term in contempt, and derisively observes: "The disease is pellagra when it fits in with the orthodox theory and when it can in any way be connected with corn, but when this is not possible the disease becomes pseudopellagra." Sandwith[5] is led to observe: "I have never employed this word myself. I have never heard it made use of, and I know of no circumstances under which it need be used." De Jeanne,[61] in 1871, subjected these cases of pseudopellagra to a very close scrutiny and wrote: "These are maladies differing widely among themselves, and all of them very different from endemic pellagra, not only in the etiology, but also in the nature and concatenation of the symptoms."

The antizeists call attention to the following facts in support of their claims: that Lombardy, always the greatest stronghold of the disease, was surpassed by Venetia in the total number of cases, according to the statistics of 1899; that there is an increase of the disease in centers not formerly infected and a decrease of the malady in regions formerly considered plague-spots and, notwithstanding the conditions of alimentation or husbandry (and in some instances both), have remained the same and have not undergone any change or improvement. Attention is directed to the slow spread of the disease and the fact that this spread is wide and independent of maize cultivation, and also to the fact that, once pellagra establishes a foothold in a certain region, it becomes, in a sense, permanent, though exhibiting annually a marked variance as to the intensity of its prevalence.

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[51] King, Howard D.: Pellagra, Ancient and Modern, The Journal A. M. A., Nov. 6, 1909, liii, 1556.

[52] Hardy, A.: *Traité des maladies de la peau*, Paris, 1886, p. 1107.

[53] Schreiber: Arch. f. Dermat. u. Syph., 1875, p. 417.

[54] Brown and Carruthers: Pellagra, Practitioner, London, May, 1906.

[55] Brown and Low: Pellagra, Edinburgh Med. Jour., September, 1909.

[56] Slack and McCall: Pellagra, Jour.-Rec. Med., Atlanta, October, 1909.

[57] Van Wart, Roy M.: *Report of a Case of Pellagra*, New Orleans Med. and Surg. Jour., lxii, No. 4.

[58] Kaposi, M.: Diseases of the Skin, 1895.

* Hyde, James Nevins: Am. Jour. Med. Sc., cxxxix, 1.

[60] Lavinder, C. H.: The Etiology of Pellagra, New York Med. Jour., July 10, 1909.

[61] De Jeanne: De la pellagre en France, Arch. gén. de méd., January and February, 1866.

A common argument advanced by those who decline to accept the corn theory is that the disease does not attack indiscriminately all those who live largely on maize, but only certain members of families are affected. Especial attention is called to the condition that where an entire family lives on a corn diet only one member may be affected, and this reasonably suggests the query, "Why does not the entire family contract the disease as would ordinarily be the case if the malady were due to a poison ingested equally by all at the same time?" As many cases of a toxemic type are communicable through lactation, and pellagra is not, the question arises, "Why this difference?" and we are at a loss for a positive and scientific answer. We well know that the most usual cause of defective lactation is anemia, and it is now becoming apparent that in pellagra there is a cachectic condition (anemia); may this not in a slight measure explain the non-transmissibility of the disease by lactation?

We are taught that the disease is one of middle life, the age incidence being usually between 20 and 50, and the number of children affected being remarkably small. Recently it has been well established that children do suffer from pellagra, and that the inability to recognize it may be due to coexisting conditions which obscure a positive diagnosis. Menage[5] reports having seen pellagra in a child of 4 years, and states that the disease was then of two years' duration. Young[5] has seen pellagra in a child of 17 months; and Sosnowski[5] and King[5] have reported in their practice several cases in childhood and early adolescence.

The appearance and, then again, the peculiar reappearance of the disease just preceding the spring, with the gradual abatement of the symptoms when the weather becomes cooler, is not altogether satisfactorily accounted for by the expert zeists. This seasonal recurrence of the cutaneous lesions with the nervous symptoms of pellagra, in asylums where maize is excluded from the dietary, appear, according to the antizeists, to suggest a living organism as a causative factor in the production of the disease.

Nichols'[5] recent observations in his study of the dietary and of the patients at the Peoria Hospital apparently point to a form of endogenous intoxication and the conclusion that protozoa play an important part in the seasonal production and absorption of an endogenous toxin. Pellagrins at the Peoria State Hospital showed a very high percentage of protozoan infections of the colon. Sambon[1] suggests that the cause of pellagra may be protozoan, and Manson is a strong adherent of this view. Dr. C. C. Bass[62] of New Orleans, having obtained positive Wassermann reaction in four cases, suggested that the disease might be protozoan in origin; in a later report the same observer reported five Wassermann reactions in ten cases. After a final review of his work, Bass states that his observations are too few in number to enable him to draw therefrom any definite conclusions. Fox,[5] whose experience with the *Wassermann reaction* is more extensive than Bass' came to the following conclusions:

> 1. Cases of pellagra do not often give a positive reaction and when they do they are very weak.
>
> 2. The value of the Wassermann test is not affected by the findings of pellagra.

The complete *fixation reaction* with lipoid substances has been found especially in lues, but also in trypanosomiasis, kala azar, and certain cases of malaria—all diseases of protozoan origin. The reaction has not, except in rare instances, been found in bacterial diseases.

Babes, Vasilin and Gheorghus[63] report highly beneficial results in the treatment of pellagra by atoxyl and arsenious acid. As a result of this therapeutic discovery they lay great stress on the probable correctness of Sambon's hypothesis, as it is well known that the almost specific therapeutic action of arsenical preparations on certain protozoan diseases (as on the manifestation of pellagra at least) suggest by analogy some conclusions as to a similar etiology. Coupled with the likeness between these diseases in respect to therapeusis is the fact that in pellagra and in trypanosomiasis there are the same characteristic perivascular small-cell infiltration and the mononuclear increase in the blood. The experiences of Wornock, Babcock, Wood, and Lavinder[63] do not bear out the testimony of the results obtained by Babes, Vasilin and others as regards this similar beneficial therapy. On account of the fact that malaria, trypanosomiasis and piroplasmosis have nearly the same geographical distribution as pellagra, some observers believe that they are justified in the assumption that for the transmission of pellagra some similar intermediate host is necessary, and for the infection or intoxication itself some microscopic, or possibly ultramicroscopic, animal parasite. Taylor,[64] in two able papers, reviews at some length the antizeistic literature and endeavors to show the disease to be protozoan in its origin.

Many believe that pellagra is possibly due to some change in the maize as a result of parasitic influence, and that from spoiled maize parasites may be conveyed to the predisposed human organism either direct or by means of insects or other organisms. Is it not possible that maize may bear the same relation to pellagra as the *Stegomyia fasciata* does to yellow fever? Of course, it must not be forgotten that an uninfected stegomyia is unable to communicate yellow fever to any human being.

Savage[65] stated that it was his belief that the eating of corn was in no wise responsible for pellagra, but that the condition was a degenerative nerve disease; Rushing[66] agrees with Savage as to corn having nothing to do with the disease, and attributes the affliction to sore-mouthed canines. The last-named observer believes that the disease prevails in dogs and is transmissible to man. That the canine may be a conveyer of the disease in the same manner as the rodent in plague is possible, though not probable. Dupont[67] published reports of two cases occurring in cats, which resembled pellagra very much in several particulars. Baruino[51] called attention to a somewhat similar condition in horses in which the animal became paretic and suffered with loss of hair.

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[62] Bass, C. C.: New Orleans Med. and Surg. Jour., lxii, No. 6.

[63] Babes, V., Vasiliu, A., and Gheorghus, N.: Ueber kombinierte Behandlung der Pellagra mittels Atoxyl und Arseniger.-Saure, Berl. klin. Wchnschr., Feb. 8, 1909, No. 6.

[63] Pub. Health Rep., Vol. xxiv, No. 37.

[64] Taylor, J. H.: The Protozoan Theory of Pellagra, Jour. South Carolina Med. Assn., November, 1908; The Question of The Etiology of Pellagra, New York Med. Jour., Dec. 18, 1909.

[65] Savage, Giles C.: Editorial—*Continued Study of Pellagra*, Boston Med. and Surg. Jour., Nov. 18, 1909.

[66] Rushing, J. B.: Pellagra Contracted from Domestic Animals, New Orleans Med. and Surg. Jour., No. 8, lxii, 621.

[67] Dupont: Arch. gén. de méd., Paris, 1857, ii, 592.

Racial differences appear to have but little influence on the disease, the negro and the Caucasian both being affected. In those regions where the disease has prevailed for an extensive period, the Hebrew has shown a remarkable immunity. In the United States most of the cases seen in private practice up to the present time have been among the blacks. Hospital, asylum and institution cases show a majority of whites to be affected. The popular impression that pellagra prevails only among the poor is, of course, an erroneous one; the poorer classes show no more predisposition than those in affluent circumstances. While agricultural classes, as a rule, are most affected, yet no walk of life can be said to be immune from the effects of the disease.

Sex apparently exerts but little, if any, influence in predisposing to this affection, men and women being affected about equally, though nervous symptoms are said to be more dominant in the female than in the male.

The disease is not hereditary, but the offspring of pellagrous parents are generally weak and puny and of lowered vital resistance and quickly fall a victim to the malady. The disease is not contagious or infectious.

I believe that through the medium of the foregoing symposium of the theories of various students of pellagra I have presented sufficient evidence to indicate the confused situation existing with respect to the exact and precise causation of the disease. A concise summary, I believe, therefore, may be useful in arriving at a definite conclusion on this point.

As is, perhaps, natural at the outset of discussion of a new problem, or new phase of some particular subject, in science as in other branches, much is said and written until usually a certain conclusion is generally accepted or, as sometimes occurs, the subject is abruptly dropped. To this rule the topic of pellagra in its various phases is no exception. We have a mass of reports and observations, we have the testimony of researchers at places both far and near, and generally each worker has labored not only without regard to the results obtained by his predecessors, but followed, often blindly, his own theory or pet predilection, although, indeed, there are two main schools of etiologic theory, that of the zeists and that of the antizeists. The result is, indeed, far from satisfactory.

Foremost among the zeists—those who believe that the use of damaged maize is responsible for the disease—we find such eminent students as F. N. Sandwith, J. W. Babcock, E. J. Wood, and C. H. Lavinder, as we have noted above. They present their side of the case with ability and at times convincing earnestness; yet, on the other side, among the antizeists, who believe that the malady may be and is caused by other factors than the use of diseased corn, and notably by protozoa, we find Louis W. Sambon and Sir Patrick Manson, who labor no less zealously to prove the correctness of their theories.

The plain truth is that in few, if any, instances do their conclusions harmonize. Experiments of the most careful and doubtless accurate nature have been made by both groups, and the result is always the same—divergencies. Thus, for example, Tizzoni asserts that the *Strepto-bacillus pellagræ* is the cause of the disease, and shortly afterward his findings are not substantiated by Lavinder. This is but one illustration; innumerable others are found elsewhere in this article.

It remains only to add that in no instance brought to my attention have Koch's postulates been fulfilled.

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# PRACTICAL DEDUCTIONS FROM URINARY FINDINGS IN DIABETES

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Since the days of Aretæus, 150 A. D., the first to use the term diabetes—the Greek word for siphon, the fanciful analogy being invoked by three of the cardinal symptoms of the disease, namely, thirst, emaciation and diuresis—the urine has always been looked on as the chief source for diagnosis in diabetes. Hippocrates, Celsus and Galen, in describing this malady, make continuous reference to the "sweet and honey urine." Glucose was first isolated and demonstrated in the urine in 1770 by Matthew Dobson of Liverpool.

With the recent remarkable advance of medicine, particularly with the progress of pathology and physiologic chemistry, the finding of diabetic urine not only makes the diagnosis of the disease, but throws light on the etiology, gives valuable aid to the surgeon and obstetrician in solving their problems when diabetes occurs as a complication, and is the guiding star in diagnosis and treatment.

In order that our deductions may be of practical use, our findings must be correct. This, of course, is axiomatic. This leads me to consider the various sugar tests, and the mistakes frequently made, as found by practical experience.

1. Specimens of diabetic urine are frequently examined and no sugar found; for it is a well-known fact that during some hours of the day, particularly the early morning hours, the urine may be free from sugar; and unless a twenty-four-hour specimen is examined sugar tests may prove negative. The quantity of sugar excreted during the different hours of the day is so variable, depending largely on the amount and nature of food ingested, that for a correct quantitative sugar estimation a twenty-four-hour specimen is imperative.

2. Very important is the fact that in diabetes mellitus the sugar may at times disappear from the urine, while its elimination is replaced by excessive excretion of uric acid or phosphates. Glycosuria, however, may be brought on with ease by the ingestion of 100 gm. of glucose, as the examination of the urine three or four hours afterward will demonstrate.

3. Many undoubtedly have noticed how readily a diabetic urine becomes turbid on standing. This turbidity is due to the fact that diabetic urine is an excellent culture medium for the yeast-cell, and an extremely luxuriant growth takes place in a very short time, particularly in warm weather. This fact is of practical importance, as it indicates that suspected urine should be examined qualitatively and quantitatively as soon as possible; for yeast causes, as is well known, fermentation of the sugar; where the amount is small, it may cause a complete disappearance of the glucose, and in all cases will cause a reduction in the percentage of glucose on a quantitative examination.

The substances, aside from glucose, which will reduce the various copper solutions are legion. For practical purposes, those which are most frequently encountered in the urine, and which must be eliminated, are conjugated glycuronic acid (eliminated after the taking of certain drugs), alkapton, creatinin, uric acid in excess, blood and lactose. A word about the last two substances will not be amiss.

A point which I observed some time ago, and which I fail to find mentioned anywhere, is the fact that not infrequently the urine of menstruating women will reduce the various copper solutions. After making various tests, I am fully convinced that the reduction is due to the menstrual blood mixed with the urine. This fact is of prime importance, as it behooves us not to jump too readily from the results obtained by reduction tests to the conclusion of the presence of diabetes in those cases in which the suspected urine is liable to be contaminated by menstrual blood or by blood from any other source.

As to lactosuria, in a large percentage of cases, lactose is excreted in the urine, as recently shown by Henkel,[1] not only during the latter months of pregnancy and puerperium, but also when there is a blocking to the secretion of the mammary glands from any cause whatsoever. Therefore it is not at all infrequent to find a sugar reduction in the urine of such patients. But this comparatively insignificant lactosuria must not be confounded with diabetes, with which it has nothing in common. Such a case came under my observation recently in a doctor's wife. A lot of unnecessary worriment could have been avoided if, in addition to the Fehling, a simple fermentation test had been done; for yeast does not ferment lactose, but does ferment glucose.

The following are approved sugar tests:

Qualitative:
1. Fehling's test.
2. Trommer's test.
3. Phenylhydrazin test.
    Korwarsky's modification.
4. Nylander's test.

Quantitative:
1. Fehling's test.
2. Pavy's test.
3. Rudisch's test.
4. Fermentation test.
    (a) Einhorn's saccharometer.
    (b) Lohnstein's saccharometer.
5. Polariscopic method.

It is surprising how easy it is to eliminate the previously mentioned reducing substances, other than glucose, by the simple Fehling test, provided that is properly done; that is, after boiling the solution and adding urine, drop by drop, it should not be boiled again, but simply warmed. The reason for this is that all the other substances mentioned require the boiling temperature before they reduce copper solutions, whereas glucose will reduce at a much lower temperature. Furthermore, if the reduction of Fehling is rapid, we can be reasonably certain that glucose is the reducing agent. But if it is slow and slight, and especially if the precipitate be yellow rather than red, other reducing agents must be considered and eliminated. The best method, to my mind, the most reliable of them all, should be resorted to, namely, the fermentation test. The only point to bear in mind is that, as yeast itself may cause a small evolution of gas, a control test with normal urine should always be made. The other substances mentioned do not ferment.

For quantitative sugar estimation Rudisch's test is both reliable and accurate.

With these precautions in mind, let us see what practical deductions we can obtain from the examination of a diabetic urine. We find that it is of pale straw color or almost colorless from the large quantity of water which it contains. In quantity it may reach 10 or 20 liters; usually, however, it ranges between 2 and 5 liters. This is due to the increased quantity of glucose in the blood, which consequently becomes hyperisotonic; the fluids of the tissues are absorbed into the circulation more rapidly than normal, resulting in an increased secretion of water by the kidneys. It is well to remember, however, that in certain cases there may be no increase in the urine, even when glycosuria is present.

The specific gravity as a rule ranges between 1030 and 1050. There is a general idea prevalent that if a urine has a specific gravity of 1020 or under no glucose can be present. I have found glucose in cases in which the specific gravity of the urine varied from 1008 to 1020. And, as Hirschfeld justly points out, in those cases in which the resorption of nitrogenous material from the digestive tract is below normal, the specific gravity is always comparatively low; about 1012.

Of course, the salient feature of the disease is the presence of glucose in the urine. The *quantity of glucose* varies from mere traces to 8 or 9 per cent. Naunyn reports a case with 11 per cent., and some time ago, at the laboratory of the Jewish Hospital, I examined a urine that contained 12 per cent. of glucose. The severity of the disease cannot be measured by the amount of sugar eliminated. There is a certain class of cases which contain but mere traces of glucose, and yet run a rapid and fatal course.

The total nitrogen of the urine is increased, which is physiologic in diabetes, and caused by the increased quantity of proteid ingested. It becomes pathologic when, in addition, the body albumin is excreted, which occurs with a high sugar output. The greater the nitrogen loss the more the general nutrition suffers by the glycosuria. It is small when the food contains enough albumin and much fat. Great loss in nitrogen is caused by the toxic bodies of coma. For the same reason the urea is also increased.

What is the significance of the increased amount of ammonia present in diabetic urine, and how is it produced? According to Neubauer, the average amount of ammonia excreted by a normal individual on a mixed diet is 0.7 gm. daily. In diabetes, on the other hand, as first pointed out by Hallerworden in 1880, an excretion of 3 to 6 gm. is common; and Stadelman reports a case of a patient who excreted 11 gm. in the twenty-four hours. A high ammonia value means a severe case, and it becomes especially high when coma supervenes. It is an attempt on the part of Nature to protect the native alkalinity of the tissues by neutralizing the acids producing the acid intoxication. The ammonia determination gives an accurate estimation of the acidosis present, and one more easily arrived at than the direct estimation of the acidosis itself.

Can we by any urinary findings predict the coming of the dreaded and fatal coma first described by Kussmaul in 1874? Can we predict it sufficiently early to do any good? We can predict the onset of coma with almost mathematical precision and often sufficiently ahead of time to allow the institution of therapeutic measures which may not only prolong life, but even save it.

It is now generally conceded, as proved by Kulz, Minkowski, Walter and Stadelman, that diabetic coma is due to an acid intoxication by one of the acetone bodies, namely, beta-oxybutyric acid, which, circulating in the blood and acting on the respiratory center and the nerve cells of the brain in general, produces the symptoms of diabetic coma. Magnus-Levy, Geelmuyden and others have recently proved that beta-oxybutyric acid and its derivatives, namely, diacetic acid and acetone, originate chiefly from the lower fatty acids of the organism and of the food.

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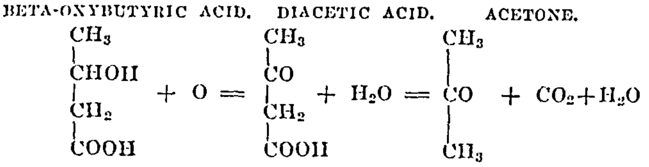
[1] Henkel, Max: Deutsch. Med. Wchnschr., Nov. 19, 1909.

A glance at their structural formulas shows their relation to one another:



$$\begin{matrix} CH_3 \\ | \\ CHOH \\ | \\ CH_2 \\ | \\ COOH \end{matrix} + O = \begin{matrix} CH_3 \\ | \\ CO \\ | \\ CH_2 \\ | \\ COOH \end{matrix} + H_2O = \begin{matrix} CH_3 \\ | \\ CO \\ | \\ CH_3 \end{matrix} + CO_2 + H_2O$$

It is the carbohydrates that provide the oxygen necessary for complete oxidation of fat into carbon dioxid and water. Deficiency of carbohydrates causes a defective oxidation in the tissues, hence defective fat metabolism, with resulting acetone formation. As a general rule, in mild cases, the addition of moderate amounts of carbohydrates to the diet causes a diminution in the excretion of acetone and beta-oxybutyric acid when present; the withdrawal of carbohydrates causes an increase. In the severest cases there are exceptions. It can be readily seen how important these facts are and what valuable deductions can be made bearing on the regulation of the diet when there are evidences of an acid intoxication in this disease.

Ketonuria, the term applied to the presence of acetone bodies in the urine, is, indeed, a very useful measure of the intensity of the diabetes; thus in the first stage of the disease acetone only occurs; in the second stage both acetone and diacetic acid; and in the third stage all three bodies appear—acetone, diacetic acid and beta-oxybutyric acid. The finding of beta-oxybutyric acid or diacetic acid in the urine, which may be present for days before coma supervenes, should always serve as a danger-signal of its approach. Nor is this the only red flag signaled to us. The increase in the ammonia output previously mentioned is equally important. The sudden marked diminution or complete disappearance of glucose in a urine previously loaded with sugar, the sudden appearance of innumerable granular and hyaline casts, rendering the urine turbid even on voiding, as first pointed out Külz, and the appearance of albumin in a urine previously free from it, have their equal significance of the approaching danger.

Recently the latitude of usefulness for the urinary findings in diabetes has been amply widened by the discovery of Cammidge's crystals, which throw light on the etiology of the disease. Cammidge[2] has succeeded in isolating from the urine hair-like crystals arranged in sheaves, and of the nature of a phenyl glucosazone, whose presence in the urine is due to specific substances circulating in the blood as a result of disturbed functioning of the pancreas, secondary to some pathologic lesion of that organ. Cammidge's findings in 83 specimens of urine from 48 cases of diabetes are of interest. In 36 cases (75 per cent.) there was a positive reaction, suggestive, as he believes, of their pancreatic origin. In 12 cases the reaction was negative. Four of these came to autopsy. In one the pancreas was found to be normal, both macroscopically and microscopically. In two the pancreas was stated to be normal, and in the fourth case the gland was not examined. Recently Kinnicutt[3] reports 7 cases of diabetes occurring in the Presbyterian Hospital; 5, or 71 per cent., gave a positive Cammidge reaction and 2 were negative. This closely corresponds with the results obtained by Cammidge. In the Jewish Hospital laboratory we have had ample proof that a positive Cammidge reaction means that the surgeon will find a diseased pancreas at operation, but we regret to say that we have had no experience with diabetes.

In conclusion, it is evident that as a result of our urinary findings practical deductions can be made as to the etiology of the disease, and that these findings are of vital importance in the diagnosis, prognosis and treatment. Furthermore, to any one who has given the subject the least thought it is self-evident that in almost every stage of diabetes there must have been a mild or beginning stage amenable to treatment; and if more care were taken in the examination of the urine these patients would be saved from the severer forms of the disease, and, in fact, some would undoubtedly have been cured.

Note.—In addition to the references previously cited, the following may be found of interest:

Dunham, J. D.: Diagnosis and Treatment of Diabetes Mellitus, Med. Rec., April 10, 1909.
Garrod, Archibald E.: The Excretion in the Urine of Sugars other than Glucose, Quart. Jour. Med., 1909, ii, No. 8.
Glaessner, Karl: Ueber nichtdiabetische Glykosurien, Wien. klin. Wchnschr., July, 1909.
Hart, T. Stuart: The Deduction of Beta-oxybutyric Acid in the Urine, Am. Jour. Med. Sc., June, 1909.
Howard, Campbell C.: Chemistry of the Urine in Diabetes Mellitus, Am. Jour. Med. Sc., May, 1909, p. 715.
Neumayer: Deutsch. Arch. f. klin. Med., 1900, lxxvii, 197.
Robson, Mayo, and Cammidge: Diseases of the Pancreas, its Surgery and Pathology.
Rudisch, Jacobi: Festschrift, New York, 1900, p. 354.
Williams, J. Witridge: Clinical Significance of Glycosuria in Pregnant Women, Am. Jour. Med. Sc., January, 1909, p. 1.

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# A NEW METHOD OF APPENDICOSTOMY

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At the Civil Hospital, Manila, P. I., in May and June, 1907, I operated in three cases of chronic amebic dysentery, using an original method which is, for operative cases, considered an improvement on the modes of operating usually adopted.

The patients had been under treatment by high enemas of quinin solution and other methods, for considerable periods of time, without improvement. The operation was done by the following method:

## MODE OF OPERATION

An incision three inches in length is made, directed downward, parallel with the fibers of the rectus muscle and about three-fourths of an inch internal to its outer border, beginning at a point half an inch below the level of the umbilicus. The superficial structures over the rectus muscle are divided in the same line, thoroughly exposing the rectus and retracting it toward the median line, after which incision is made into the abdomen through the tissues posterior. The fingers are introduced to determine the point of origin of the appendix. Over this point a vertical stab wound is made through the abdominal wall, using a small straight bistoury one-fourth of an inch wide. While making this incision, the intestines must be protected by a thick pad of gauze held on the inner surface of the abdominal wall at the proper place. In cases in which the meso-appendix is too short or too narrow to permit the appendix to be drawn out of the abdomen, it should be clipped on the free edge at a point well toward its termination in order not to interfere with the blood-supply of that portion of it which is to form the canal. A pair of narrow forceps is thrust through the stab incision, grasping the appendix and drawing it out until the intestine is in contact with the abdominal wall, after which it is held in place with several interrupted sutures at the opening in the skin. The large wound is closed with three layers of sutures and sealed with collodion or tincture of benzoin. The appendix is then removed at a point one-fourth of an inch beyond the skin, and a catheter inserted into the canal at once in order to keep it patent. Considerable swelling in its walls always occurs, and it is much easier to open the appendix and introduce the catheter immediately than to wait.

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[2] Cammidge: Surg. Gynec. and Obst., 1909, vi, p. 22.

[3] Kinnicutt, Francis P.: Cammidge Reaction in Diseases of the Pancreas, Med. Rec., April 10, 1909, p. 589.

### ADVANTAGES

1. This method is much cleaner than the operation of sewing the appendix in the large wound, for this can be sutured completely and sealed, leaving no port of entry for infection and rendering it possible to do a thoroughly aseptic operation.

2. The necessary irrigation with quinin solution can be begun at once. The appendix is in close contact with the tissues in its exit and the wound is very small, so that the peritoneal surface unites with these tissues almost immediately and it is not necessary to wait for complete union.

3. This operation completely removes the possible danger of secondary hernia following an operation in which the appendix is sewed in a large abdominal wound. The appendix emerges from the abdominal cavity by an opening too small to admit of such a possibility.

4. In the operation as done ordinarily, it is impracticable in many cases to make the incision over the exact site of the origin of the appendix, because there is much individual variation in different cases and it is extremely hard to determine its exact location. In such cases this point may be at some little distance from the line of the wound, resulting in a tortuous canal or one perhaps requiring considerable stretching of the appendix to bring it to the surface. Such a result is most reprehensible and may cause stopping of the blood-supply with a resultant sloughing of the appendix. In the new method the stab wound is made directly over its origin, after examination and results in a short straight canal, opening directly into the bowel.

5. The secondary operation for the repair of the sinus after the patient has recovered under treatment is much simpler than in former methods. Only a very small amount of scar tissue is formed in such a wound and the appendix can be easily dissected out and removed.

### THE SOLUTION USED

The solution in most general use in the treatment of amebic infections, both for appendicostal and for rectal injection, is a simple solution of *quinin* sulphate in warm sterile water, the treatment beginning with half a liter of a weak solution. Injections are given daily and both the quantity of fluid and its percentage of strength in quinin is increased each day, covering a period of several weeks or more and until it is being taken in large quantities. After the operation of appendicostomy, the entire bowel can be irrigated continuously with the solution for long periods of time, and the results of treatment are not altered when large quantities of the ordinary solution are not retained. The ordinary solution is distinctly an irritant to the bowel, and in some cases it can be retained in only comparatively limited quantities for rather short time. In the after-treatment of the three patients operated on, it was found that the use of a physiologic salt solution at a temperature of 39 C. as a menstruum for the administration of the quinin was followed by complete alleviation of the irritating symptoms. It is superior to the ordinary solution; it is more penetrating in action against the ameba and hastens recovery. The ordinary solution of quinin is not an isotonic fluid, and it is possibly for this reason that it causes more or less irritation to the mucous membrane of the bowel, resulting in cramps and griping when any considerable quantity is retained. The addition of sodium chlorid in proper percentage always relieves the irritation completely, so that the patient is able to retain large quantities.

In cases of amebic infection which are not considered suitable for operation, but in which treatment by high enemas in the knee-chest position is administered, the use of physiologic salt solution is particularly effective because it is necessary to inject the fluid in a direction reverse to the normal peristalsis, and this is difficult if the fluid is an irritant. For a cure in such cases it is necessary to inject large quantities so that it may fill the colon and reach the seat of the disease in the cecum. When saline solution is used, such patients are able to retain very large quantities containing a greater percentage of quinin for a longer period of time. The amount of the solution taken is often doubled. At my suggestion this treatment was used with most excellent results in a number of cases of amebic infection under the treatment of Dr. J. D. Long at the Marine Hospital, San Francisco.

### INDICATIONS

It is believed that the operation of appendicostomy should be reserved for those cases of amebic infection in which prolonged treatment by enemas per rectum has been ineffectual. Most cases of chronic dysentery and other forms of amebic infection in the Philippines are perfectly amenable to treatment with high enemas of quinin solution, but in a certain percentage it fails; possibly the solution does not get sufficiently high up to reach the seat of the disease.

The three patients operated on were discharged in a few weeks, recovered, and with no amebas in the stools.

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# BLINDNESS FROM HEROIN IN THE NOSTRUM "HABITINA" *

EDWARD STIEREN, M.D.
PITTSBURG

It is well known that certain agents, when ingested in large quantities, or for a considerable length of time, cause an amblyopia which is due either to an acute interstitial inflammation of the central or macular nerve fibers of the optic nerves or a gradual degeneration of these fibers. Wood alcohol or some preparation containing it, Jamaica ginger, etc., are the agents more prone to cause the acute variety, while the habitual excessive use of tobacco and alcoholic beverages, the administration of stramonium, cannabis indica, chloral, etc., or long continued exposure to lead, bisulphid of carbon, naphthalin, etc., are frequently responsible for the chronic form.

That the heroin amblyopia vaguely referred to in various works on therapeutics and pharmacy belongs to the category of retrobulbar neuritis is evident from the following clinical history and ophthalmic findings:

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* Read before the Allegheny County (Pa.) Medical Society, Jan. 18, 1910.

* The nostrum is discussed editorially and in the Pharmacology Department in this issue.

*History.*—Mrs. M. P., aged 32, colored, married, was admitted to the Passavant Hospital, Nov. 6, 1908, in the service of Dr. Karl Emmerling, complaining of dimness of vision and pain in the head, shoulders, and abdomen. Her past history is unimportant. She frankly confesses to the morphin habit, which she states was contracted during an attack of enteritis about two years before. The patient is above the average in education and refinement for one of her race and there is no doubt that she is sincere in her expressed desire to throw off her drug habit, innocently contracted. To this end she had been taking for a month prior to her admission to the hospital, a preparation called "Habitina," beginning with ten drops four or five times daily and gradually increasing until she was now taking a teaspoonful six or eight times daily. Before beginning the "cure" she had been using about 6 grains of morphin daily. Her mental aberration and apathy were marked.

*Examination.*—The ophthalmic picture she presented was striking and characteristic of blindness; the pupils were widely dilated and reacted sluggishly to light and accommodation; either eye diverged markedly on covering. The subjective symptoms were diplopia and failure to recognize objects when looking directly at them; a large central scotoma could be demonstrated in each eye, with peripheral vision apparently but little diminished. The ophthalmoscope revealed a slight hyperemia of the discs, edges blurred, and decided fulness of the retinal veins.

*Treatment.*—Treatment was mainly eliminative and supporting. Some hypnotics had to be given and also an occasional dose of morphin during the first week. Caffein in one grain doses every four hours undoubtedly did much good toward clearing up her clouded intellect. Discharged Dec. 8, 1908, with vision 6/8 in either eye. She was seen several times during the ensuing summer by the intern who had her in charge, Dr. F. B. Shaffer, and declared to him she had no return of her craving for opium and felt in the best of health.

Two samples of the nostrum she had been taking were obtained for analysis. One, a small sample, had been sent to the patient's mother; the other, a two-ounce bottle, was readily purchased from a Market Street drug store. Each of these bottles had labels on which was printed the following statement: "This preparation contains 1 per cent. alcohol. One fluid ounce contains 16 grains morphin sulphate, 8 grains diacetyl-morphin hydrochlorid." Both of these samples were subjected to analysis by Dr. Julius Koch, who determined the alcohol contained to be ethyl alcohol and that the proportion of morphin sulphate and heroin hydrochlorid coincided with the formula printed on the containers. No other drugs or poisons could be demonstrated in the specimens nor did any new combinations form.

This patient had, then, before contracting the "Habitina" habit, been taking about 6 grains of morphin per day. Beginning with ten drops of the "cure," or ⅓ of a grain of morphin and 1/6 of a grain of heroin, four or five times daily, the doses increased in direct proportion with her desire for the "cure" until she eventually was taking, when admitted to the hospital, 2 grains of morphin and 1 grain of heroin six or eight times daily!

Heroin is not a true alkaloid of opium. It is chemically obtained by heating pure morphin alkaloid with acetyl-chlorid, washing with water, then with dilute solution of sodium carbonate and, finally, purifying by crystallization from hot alcohol, the product being diacetyl-morphin or heroin. It is an unstable compound and appears to be susceptible to chemical changes when kept for any length of time, causing untoward symptoms when thus dispensed. Hare mentions nausea and vomiting as the least of these, syncope, blindness, subnormal temperature, even death following the use of large doses.

Its chief depressing action is on the respiration, which becomes deeper and slower in small doses and may cause complete cessation of respiration in larger doses. As a cough sedative it finds its most general use, although it has been used in place of morphin for the relief of pain. In this respect it certainly is much less efficient than morphin and infinitely more dangerous if enough be given to control the pain.

The doses commonly recommended, from 1/10 to ⅓ gr. are entirely too large for general use; 1/24 gr. is usually sufficient for the relief of cough.

Consideration of the above report appears to emphasize the necessity of prohibiting by law the advertising and sale to the public of preparations containing opium. It is obvious that merely to require the publishing of the different ingredients contained in a nostrum in many instances serves only further to promote its sale.

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# A SATISFACTORY, INEXPENSIVE AND PORTABLE PROCTOCLYSIS APPARATUS

EDMUND ADAM BABLER, M.D.
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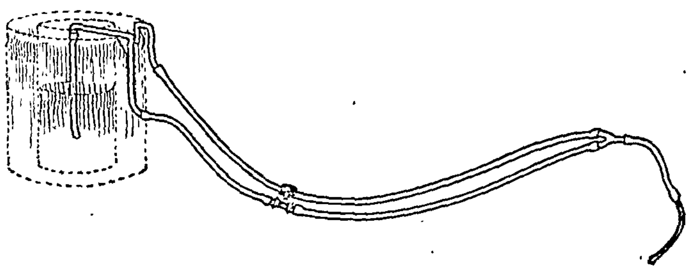
ST. LOUIS

The internist, as well as the surgeon, acknowledges the great value of Murphy's method of saline proctoclysis. Every surgeon of wide experience has been repeatedly brought face to face with the fact that the present methods of introducing warm salt solution, drop by drop, into the rectum are usually unsuccessful. In more than 90 per cent. of the cases either the solution is cold by the time it reaches the rectum or the apparatus is expensive, clumsy or otherwise unsatisfactory. A visit to the various hospitals in our American cities will reveal the fact that the fountain syringe continues to be relied on for this purpose, and all know the unsatisfactory results that must follow.



Simple apparatus for proctoclysis.

The most serious objection to the Elbrecht apparatus is its expensiveness. Hospitals usually limit their purchases to one apparatus. That designed by Saxon of Philadelphia is not conveniently portable. Having frequently been compelled to treat these cases of acute perforative peritonitis in the farm house, the necessity of an efficient, satisfactory and portable apparatus for saline proctoclysis was the mother of the device herewith presented.

The principal objection to the apparatus is its simplicity. The illustration is self-explanatory. The two arms of the Y are especially long and the stem of the Y is very short in order that the flatus may be expelled through the overflow arm with the greatest ease. This is a very valuable point. The siphon tube and the overflow tube are so made that they can be attached to a douche can, the outlet of which has been plugged with a cork. If the can is placed on an electric stove (in hospital practice) the results are ideal. In private city homes where an electric stove is not at hand, or in the farm house where the surgeon has the proctoclysis apparatus only, the same results can be obtained by placing the saline solution in a quart fruit jar or other receptacle and then placing the latter in a bucket, kettle or other vessel partially filled with hot water. The siphon and overflow tubes are then attached to the latter vessel and the flow regulated by the stop-cock in the siphon arm of the Y. The vessel containing the salt solution should be placed near the side of the bed of the patient, and less than a foot higher than the buttocks of the patient. The flow must not be faster than a drop a second.

The apparatus has been in use at the Deaconess Hospital, St. Louis, for some time and has been found ideal. By removing the overflow arm of the apparatus and attaching the piece of rubber hose on the siphon tube to the nose of the overflow tube it is possible to employ this apparatus successfully for hypodermoclysis.

4826 Delmar Avenue.

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# THE ELIMINATION OF HEXAMETHYLENAMIN BY THE MUCOUS MEMBRANE OF THE MIDDLE EAR

## A PRELIMINARY NOTE: POSSIBLE APPLICATION TO THE TREATMENT OF OTITIS MEDIA

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It has been known since the introduction of hexamethylenamin by Nicolaier, that the drug is eliminated in the urine partly as formaldehyd and partly unchanged, and since that time hexamethylenamin has been extensively employed as a genito-urinary antiseptic.

The discovery that it is eliminated in large amounts in the bile and cerebrospinal fluid, and that these fluids may be rendered sterile by it, we owe to Crowe, of Johns Hopkins. Many important therapeutic applications were suggested by Crowe, and based on these facts the drug has rightly assumed a position of great importance in the treatment of different pathologic states involving the biliary and meningeal tracts.

So far as I am aware, however, and so far as a cursory examination of the literature has enabled me to learn, no one has ever noted that hexamethylenamin is eliminated by the mucous membrane of the middle ear and that it can be demonstrated in the secretions from this organ.

Having recently determined this fact, it was considered sufficiently important to report the circumstance by which the discovery was made because it would seem probable that some useful therapeutic applications may result from it.

*History.*—J. R. B., a student in the medical department of Georgetown University, developed an acute sinistral otitis media, Jan. 24, 1910, after two days of malaise, pain in left side of face and nasal discharge from left side. When I first saw him, January 25, the mucous membrane of the auditory meatus was bleeding as a result of efforts made to remove a piece of cotton which was supposed to have passed into the canal. No cotton was present on examination. The drum-membrane was inflamed. The only treatment employed was the introduction of a simple emollient after cleaning out the canal, and applying a cocain-adrenalin solution. His temperature was 101 and he felt ill, and suffered considerable pain in the ear. January 26, at 10 p. m., the membrane ruptured and a free muco-purulent discharge appeared. January 27 a microscopic examination showed the pus to contain a capsulated diplococcus morphologically identical with the pneumococcus. He was directed to irrigate the external meatus with hot boracic acid solution, and to keep the ear lightly plugged with sterile cotton. He was seen on January 28 by Dr. Walter A. Wells, professor of otorhinology in the medical school, who examined the ear and advised a continuation of the treatment. The discharge was profuse and kept up unabated from January 27 to February 2 and continued to contain the *Diplococcus pneumoniæ*.

February 2 it occurred to me to determine whether hexamethylenamin (urotropin) would be eliminated in the secretion after internal administration, and if so determine what effect, if any, such elimination would have on the discharge. With this end in view the patient took 1 gram (15 grs.) of hexamethylenamin in divided doses of 0.3 gm. (5 grs.) during the evening of the second and early morning of the third. I saw him at 2 p. m. February 3 and found that the discharge had decreased in amount, roughly speaking, about 75 per cent.

He removed a piece of cotton which had been in the meatus all the morning, and this contained but a comparatively small amount of secretion. The cotton was triturated in a test tube with 3 or 4 c.c. of water and the solution tested according to the method used by Crowe in his investigations on cerebrospinal fluid. A drop of milk was added and the reagent, consisting of 100 c.c. of 96 per cent. sulphuric acid and one drop of 3 per cent. ferric chlorid solution, was poured to the bottom of the tube. At the line of juncture a deep amethyst color appeared, soon turning dark, showing the presence of a considerable amount of the drug. Another experiment was tried with the secretion which could be swabbed in a small amount from the meatus, representing discharge which had last emerged from the tympanum. The reaction was present but to a less degree.

The drug was a second time administered; 1 gram (15 grs.) in divided doses during the evening of February 3 and the morning of February 4, the last dose, 0.3 gm. (5 grs.), being taken at 7 a.m. A piece of cotton was kept in the meatus during the night. This cotton was treated in the same manner as on the previous day, and a positive reaction obtained. The color reaction appeared more slowly than on the previous day. The amount of discharge was extremely scanty and only a few pneumococci were found. On the evening of February 4 no discharge could be obtained.

It would appear therefore that hexamethlyenamin is eliminated in the secretion of the middle ear, and that possibly it may be found to be of value in the treatment of otitis media. Certainly the case above reported of pneumococcus infection appeared to be rapidly cured by it. Whether other forms of purulent middle ear disease will be equally amenable to such treatment will remain for future investigations to decide.

1338 H Street, N. W.

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**Drop-Wrist Sign of Organic Central Paralysis.**—J. M. Raimiste calls attention in the *Revue Neurologique* to a sign that differentiates organic central paralysis of the arm. The patient rests his forearm in pronation on a table beside him, and the examiner gradually raises this forearm, using both hands but very lightly, without pressure, until the forearm is vertical, the elbow still resting on the table. The patient's attention is then diverted and the examiner gently withdraws his supporting hands. The hand, the palm turned inward and forearm form a straight vertical line and thus remain in the healthy, but in case of cerebral paralysis the hand drops when the support is removed, forming an angle of 130 or 140 degrees with the forearm.

# POST-OPERATIVE HEMATEMESIS WITH REPORT OF A CASE

G. E. POTTER, M.D.
DETROIT

Among the grave post-operative complications that may befall a surgical patient is hemorrhage from the mucosa of the stomach. The condition known as post-operative hematemesis does not include secondary hemorrhage from the stomach due to poor surgical technic or to gross pathologic lesions located within the stomach wall, or the vomiting of blood swallowed during operation. Post-operative hematemesis follows far more frequently on operations on the abdominal viscera, especially when the stomach, duodenum or bile passages are the organs operated on, though cases of fatal hematemesis have occurred after operations on the head, genito-urinary tract and extremities.

The hematemesis usually begins within twenty-four hours following the operation, though cases are recorded in which it occurred as late as the tenth day. The patient may or may not have suffered from ether or chloroform sickness, but whether he has or not, there is usually an interval between the cessation of the anesthetic sickness and the commencement of the vomiting of blood. As a rule, the amount vomited at first is small, and occurs at intervals of one to two hours. There is rarely more than 60 c.c. to 300 c. c. at a time. The blood which is vomited has always been in the stomach a sufficient length of time to become partly digested, giving the vomit a black, coffee-ground appearance. The vomitus is intensely acid, and burns the patient's throat, mouth and lips, leaving a red streak where it trickles over the lip and chin.

The general condition of the patient soon changes from one of mental alertness and sensitiveness in the early stage, to that of profound depression. The pulse is small and rapid, the skin cold and clammy with sweat, temperature is often sub-normal. There is, as a rule, a progressive asthenia and collapse. The vomiting tends to become regurgitant at short intervals.

*Patient.*—M. L., aged 48 years, commission merchant, married, weight 196 pounds, height 5 feet 9 inches.

*Family History.*—Father died of cerebral apoplexy at 58 years. Mother had right hemiplegia at 62 years, died at 71 years of senility. One brother is living and well.

*Previous History.*—Patient had ordinary diseases of childhood; denies syphilis; does not use liquor or tobacco; enjoyed perfect health until 42 years of age, when he had a light sunstroke; complained of headache at times. Since that time, he has complained, for a few days at a time, of attacks of sour stomach and pain in epigastrium, after eating.

*History of Injury.*—April 25, 1904, while attempting to stop a runaway team he was crushed between the wagon and a telephone pole; when released he was suffering great pain in right side of chest, and on examination it was easy to determine that the fifth, sixth and seventh ribs on the right side were fractured in the mid-axillary line, for the relief of which the right side from axilla to costal margin was strapped with adhesive plaster. The patient, removed to his home and placed in bed, rested comfortably; had very little pain in chest, no cough. Temperature varied between normal and 100 F. for first four days; pulse never above 100. Second day following accident the patient complained of continuous dull pain in lower portion of right upper quadrant of the abdomen. Ice-bag was applied but gave no relief; there was some tympanites, bowels moved but condition was not improved.

April 29. Fourth day following accident at 2 a. m. patient was suddenly seized with intense pain in right upper abdomen: there was tenderness on pressure and muscular rigidity extended over right half of abdomen; the intestines soon became greatly distended with gas. Temperature registered 101, pulse 120, respiration 30. At 7 a. m. there was no cough, no increase of pain in chest, no discernible physical sign of pneumonia; the respiratory murmur on right side was diminished, and percussion note slightly dull; no exploratory puncture was made. Patient was moved to hospital and in consultation a probable diagnosis of perforation of a traumatic gangrenous intestine was made, and exploratory incision advised.

*Operation.*—The patient was operated on at 4 p. m. On entering abdominal cavity the intestine, much distended with gas, protruded into the wound. No peritonitis, adhesions or perforations were found. The entire abdominal viscera appeared free from any inflammatory condition; wound was closed. The patient vomited twice during the night; about 60 c.c. of bile-stained mucus and complained of some pain in right side of chest.

April 30. Temperature 102, pulse 130, respiration 34, cough. At 4 p. m. he vomited 90 c.c. of dark blood-stained material, which he continued to do during the night about every two hours. The following day he continued to vomit more frequently of the coffee-ground material, varying in amount from 60 c.c. to 300 c.c. at intervals of 30 to 40 minutes. Temperature 102, pulse 150.

May 2. Patient in collapse. Temperature 102, pulse 160; vomiting pus; basin full of dark blood every 15 to 20 minutes. The man died at 2 p. m., 46 hours from time hematemesis began.

*Autopsy.*—The autopsy was held two hours after death. Abdomen greatly distended; median incision found healing by first intention, with the omentum slightly adherent to the peritoneal incision. The entire intestinal canal was enormously distended with gas. No obstruction, no arteriomesenteric ileus. The omentum was of good color, not twisted, did not exhibit any evidence of traumatism. The abdominal cavity was free from fluid, no peritonitis. The liver, kidney, spleen, heart and pancreas were normal.

The right pleural cavity contained 75 c.c. of blood-stained serum. The lower half of the parietal and visceral surfaces of the cavity was in an acute stage of inflammation. The surface of the lower lobe of right lung opposite the points of fractured ribs was abraded in several places, and in the stage of red hepatization; left lung and pleural cavity normal.

The most important pathologic condition was that observed in the stomach. The organ, normal in size and position, contained when removed about 100 c.c. of thin, black blood; its walls were flabby; the blood-vessels leading to and penetrating the walls were engorged; the mucosa was extravasated with blood in places, and over the whole surface were ulcerative patches varying in size from a pin point to a bean. In outline some were circular, some slender, almost linear; in general they were more nearly oval, and more numerous toward the pyloric end of the stomach. The ulcers were shallow and did not extend into the submucosa.

## INTERPRETATION OF THE SYMPTOM-COMPLEX AND POST-MORTEM FINDINGS

It probably has been observed by most of us that in some cases signs are either exaggerated, meager, absent or contradictory when viewed in the light of later developments of the case, or when compared with post-mortem findings. It happened in this case that the physical examination of the chest failed to disclose early in the history the nature and seat of the disease in the lung and pleura. There was a transference of the usual chest symptoms to the abdomen and an abeyance of the physical signs in the chest, as the patient was carefully examined. The sudden acute exaggeration of the abdominal symptoms on the fourth day following the accident was due to a right-sided traumatic pleural pneumonia. The explanation of the transference of pain to the abdomen in thoracic disease is clear when we recall the anatomical distribution of the anterior rami of the six lower intercostal nerves in the abdominal wall and parietal peritoneum as described by Ramstorm.

The post-operative vomiting of blood is best explained by the theory of sepsis as suggested by W. L. Rodman. The hemorrhage was from ulcers found in the gastric mucosa which were apparently of recent formation, and the multiple foci had their origin without a doubt in the infected lung and pleura. The question is whether emboli carried the infection to the gastric mucosa, or whether the infectious organisms alone were transported to and produced thrombi with subsequent emboli in the vessels of the stomach. Death in this case was due to hemorrhage from numerous acute ulcers of the gastric mucosa.

### PROGNOSIS

The mortality of post-operative hematemesis is high. In a series of 29 cases reviewed by Purves,[1] the death-rate was 69 per cent. In 14 cases reported by Busse the mortality was only 21 per cent.

### TREATMENT

The treatment can be conducted only along symptomatic lines, as the bleeding is from numerous erosions for which the primary operation is mainly responsible. The stomach should be washed out with a 2 per cent. solution of sodium bicarbonate, at a temperature of 100° F. to 120° F. until the fluid returns clear; to be followed by 2 c.c. of adrenalin chlorid (1 to 1,000) solution in 60 c.c. of water or normal saline solution. No food is given by mouth; rectal feeding is used. Ice-bag to epigastrium, a 2 per cent. gelatin solution, subcutaneously, or a 10 per cent. solution, by rectum, have proved useful. It is essential that the patient be kept as quiet as possible.

1491 Woodward Avenue.

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## CARCINOMA OF THE STOMACH

### TWO CASES DIAGNOSTICATED BY THE X-RAY

SIDNEY LANGE, M.D.
CINCINNATI

The comparative meagerness of the literature on the Roentgen diagnosis of carcinoma ventriculi prompts the report of the following cases:

Case 1.—Mrs. E. F., aged 45, was admitted to the east surgical service of the Cincinnati Hospital because of pain in the upper abdomen and persistent vomiting. The onset of the symptoms dated back only three months, during which time she had lost much weight.

*Examination.*—The essential physical findings were as follows: A somewhat tender rounded tumor mass about the size of a peach could be felt in the abdomen. Its position varied, at times being found in the upper left quadrant or epigastrium; at other times at or below the umbilicus. It was freely movable, transmitted an impulse from the aorta and descended with inspiration. The vomiting was very persistent and followed the ingestion of even the blandest of foods. Examination of the stomach contents revealed some diminution of the hydrochloric acid and the presence of much stringy mucus, but no lactic acid, blood or tissue shreds were found. A provisional diagnosis of cancer of the stomach was made because of the progressive emaciation, persistent vomiting and the tumor mass. But a positive Moro skin reaction together with the great mobility of the tumor and the negative stomach analysis suggested the possibility of an omental tumor of tubercular origin.

An *x*-ray examination of the stomach after the ingestion of 12 ounces of bismuth subcarbonate suspension revealed a vertical sac which extended two inches below the umbilicus. This represented apparently the vertical or cardiac portion of the stomach. The horizontal or pyloric portion of the stomach was absent. The lower extremity of the vertical sac, instead of being continued into the pyloric spout, ended abruptly with a median serrated margin. After a wait of one-half hour the same skiagraphic appearance persisted, the pyloric portion of the stomach failing to fill with the bismuth suspension although from the shape of the stomach it was evident that the organ was undergoing vigorous peristalsis. The stomach was apparently prolapsed but not dilated.

The accompanying tracing from the skiagram (Fig. 1) shows the above described condition, which becomes more evident by a comparison with the tracing of a prolapsed but otherwise normal stomach (Fig. 2) in which the pyloric spout is especially well marked. An *x*-ray diagnosis of organic obstruction in the pyloric portion of the stomach was made, which obstruction in the presence of the tumor mass was interpreted as carcinoma.

*Operation.*—After two weeks of observation surgical intervention was recommended and accepted. At the operation a hard mass was found in the pyloric portion of the stomach, infiltrating the walls in circular fashion. The gastric mucosa was not ulcerated (which accounted for the absence of blood in the vomitus) and the pyloric canal was still patent to fluids. The mass was resected and a gastroenterostomy performed. The resected specimen was sent to the laboratory where the diagnosis of carcinoma was substantiated.

1

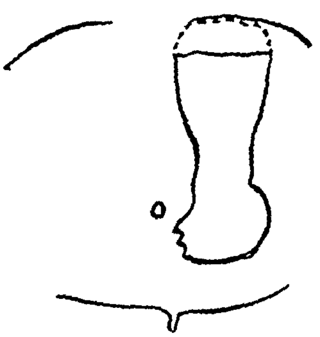

Fig. 1.—Tracing from skiagram showing apparent absence of pyloric portion of stomach.

2

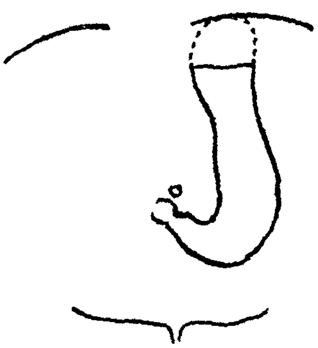

Fig. 2.—Tracing from skiagram of prolapsed but otherwise normal stomach, showing pyloric portion.

Case 2.—J. M., aged 65, was admitted to the east medical service of the Cincinnati Hospital because of pain in the stomach, occasional vomiting, loss of appetite and weakness. These symptoms began seven weeks before admission.

The pain which was referred to the epigastrium was dull, aching in character and was accentuated by pressure over this region. The patient was often nauseated and vomited on an average of twice a week.

*Examination.*—Analysis of the stomach contents revealed an absence of free hydrochloric acid. There was, however, no lactic acid or blood to be found. Physical examination proved entirely negative except for a slight tenderness in the epigastrium. There was no tumor mass to be felt.

An *x*-ray examination of the bismuth-filled stomach gave a skiagram almost identical with the one in the previous case. The vertical cardiac portion of the stomach was clearly outlined but the horizontal pyloric portion could not be seen. That there was no complete obstruction in the pyloric portion of the stomach was evidenced by the fact that the bismuth emulsion slowly escaped from the stomach, but the thick material could not enter the pyloric passageway in sufficient quantity to be skiagraphed. The contour of the stomach indicated active peristalsis.

*Diagnosis.*—A diagnosis of carcinoma of the pyloric portion of the stomach was made and an operation advised. The patient refused to be operated on and left the hospital.

On tracing the subsequent history of the patient it was learned that he died some six months after leaving the hospital with every evidence of cancer of the stomach.

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[1] Edinburgh Med. Jour., March, 1902.

We have here two cases of carcinoma ventriculi which gave distinct skiagraphic evidence of their presence. That the diagnoses were not early ones is of course evident, and there were, moreover, in both cases clinical signs pointing to the possible nature of the condition. In the first case, however, the $x$-ray findings served to clinch the diagnosis while in the second case the diagnosis practically rested on the $x$-ray examination.

That the $x$-ray will be an important and not infrequently a determining factor in the early recognition of carcinoma ventriculi seems fairly certain. The fact that there is no early, constant and positive clinical sign of this condition gives the $x$-ray method much latitude.

22 West Seventh Street.

## EXTRA-UTERINE PREGNANCY

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This case is of especial interest as the right tube and ovary had previously been removed. The ovum found lodgment and had developed in the uterine portion of the stump.

*History.*—Mrs. J. C. O., aged 30, married ten years, had one child 2½ years old. The right Fallopian tube and ovary were removed six years ago. Since that time her health has been good. September 10 last she missed her period but felt continually as if "about to menstruate." November 1 she was taken suddenly with an acute pain in the lower abdomen accompanied by diarrhea, nausea and vomiting. The next day she was better, but had a sore spot and a lump the size of a hen's egg below and to the right of the umbilicus. The physician who attended her paid no attention to it, as he thought it would pass off in a few days. During the evening of November 9 a second, but much more severe, attack came on. Dr. Austin of Charlotte, N. C., was visiting next door, and gave temporary relief. I was called two and a half hours after the attack began. The patient was in a state of profound collapse when I arrived. The abdomen was distended and the lower third dull on percussion. Dr. Austin agreed with me that an operation was imperative, so the patient was hurried to the Tabernacle Infirmary.

*Operation.*—The peritoneal cavity contained about five pints of fluid and clotted blood. There was a ragged opening three inches long at the right cornu of the uterus. A two-and-a-half-months fetus enclosed in the amniotic sac was found in the cul de sac of Douglas. There were no adhesions about the uterus or broad ligaments from the former operation. The left tube and ovary were healthy. The entire right broad ligament and the body of the uterus were removed and the stump stitched over with No. 1 plain catgut, the peritoneal cavity cleaned out, filled with hot saline solution and closed without drainage.

The patient has made an uneventful recovery.

*Examination of Specimen.*—There was a cavity the size of a small turkey egg at the right cornu, extending into the uterine wall as deep as the mucous membrane, and outward between the folds of the broad ligament. It communicated with the cavity of the uterus by means of the orifice of the right Fallopian tube. There were fragments of the placenta attached to the uterine portion of the cavity. There were a number of half-organized blood-clots between the folds of the broad ligament. These were evidently the result of the partial rupture of November 1. The present rupture occurred along the superior and posterior walls, the anterior and inferior walls remaining intact. The cavity of the uterus was filled with decidua which was protruding through the orifice of the tube.

834 Candler Building

## CONGENITAL ABSENCE OF THE RECTUM

W. S. JOHNSON, M.D.
LOS ANGELES

*History.*—Male child, born Nov. 22, 1909. The mother had previously given birth to two children normal in every respect and both living. The weight of child at birth was 9 pounds. It was a fine, healthy-looking baby, but examination of the perineum revealed entire absence of the anus. A median raphé extended from scrotum to coccyx without so much as a dimple to indicate the usual location of the anus. There was no bulging of the perineum. The external genitals were normal and well developed.

*Operation.*—November 23, at 10 p. m., forty-two hours after birth. Under light ether anesthesia an incision was made in median line of the perineum. No muscle tissue was encountered. The dissection was carried inward through fibrous tissue to a depth of two inches and careful search was made from the urethra anteriorly to the sacrum behind, but there was no evidence of gut. The perineal wound was closed with catgut and after rapid preparation of the abdomen an incision was made in the left iliac region. A loop of sigmoid was exposed and sutured in the wound. The bowel was immediately opened by a longitudinal incision and a small amount of meconium was delivered. A gauze dressing was applied and the baby put to bed.

*Result.*—The child bore the operation well and required no stimulation. Within a few hours large quantities of meconium were passed. Twelve hours after operation the child nursed from the breast, and the subsequent convalescence was uneventful. On Jan. 10, 1910, the child weighed 12 pounds, a gain of three pounds in seven weeks.

717 Grant building.

# *Therapeutics*

## LACTIC ACID MEDICATION

During recent years much has been written about autotoxemia, and especially that form of this condition which is believed to be due to intestinal putrefaction.[1] This intestinal putrefaction is caused by, or at least accompanied by, the growth and multiplication of micro-organisms. Two important varieties of this putrefaction are recognized and are distinguished as proteolytic, due to the putrefaction of proteids, and saccharolytic, due to the putrefaction of sugar.

It has been proposed to combat or prevent this putrefaction in three different ways: first, by regulating the diet so that the food ingested will be thoroughly digested and completely absorbed, and that consequently little material will be left for the putrefactive bacteria to work on; second, by administering drugs which will inhibit or prevent the growth of the putrefactive bacteria; and, third, to inhibit or prevent their growth by introducing into the alimentary canal, and encouraging the multiplication therein, of bacteria which are inimical to the other putrefactive bacteria already at work.

Up to the present the bacteria which give promise of proving most useful in preventing the development of the putrefactive bacteria in the intestinal canal are the lactic-acid-producing bacilli.

Lactic acid is described in the Pharmacopeia of 1900 (page 16) as "a liquid organic acid, composed of not less than 75 per cent., by weight, of absolute lactic acid . . . and about 25 per cent. of water, a colorless, syrupy liquid, odorless, of a purely acid taste, and absorbing moisture on exposure to damp air." The

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[1] Among other articles which may be referred to on this subject is one by Dr. C. A. Herter, in The Journal, Dec. 21, 1907, p. 2079.

Pharmacopeia of 1890 (page 16) contains the additional information that it is "usually obtained by subjecting milk sugar or grape sugar to lactic fermentation."

The bacilli of lactic acid fermentation, which cause the production of lactic acid in milk, are "bacilli which convert milk sugar into lactic acid. Several have this property, including *Bacillus acidi lactici, Bacillus prodigiosus, Bacillus caucasicus, Bacillus oxytocus perniciosus* and others" (Foster). *Bacillus acidi lactici* is, therefore, it is evident, "a term applicable to a number of bacilli which give rise to the lactic-acid fermentation in milk" (Foster).

Milk when allowed to stand undergoes two marked changes: first, the fatty matter, with a small part of the casein attached to or entangled with it, rises to the surface in the form of cream; second, if the milk is exposed to the air and the temperature is warm, lactic-acid fermentation takes place, which results in the milk becoming sour, and later, the casein coagulating, the milk becomes curdled. The curd consists chiefly of coagulated casein, and the liquid part consists of the watery portion of the milk with the salts and any milk sugar not changed into lactic acid.

When cream which has become sour is churned it separates into two parts, a hard part consisting chiefly of the fatty part of the milk, and a liquid part containing casein, in a sour liquid containing lactic acid. The latter, the sour liquid containing casein and lactic acid, is buttermilk. The casein in buttermilk is in a finely coagulated form and is more readily digested than ordinary casein.

Forty years ago Dr. Ballot, of Rotterdam (*Medical Times and Gazette*, 1870, vol. i, p. 331; see Bartholow) recommended the use of buttermilk as a food for infants on the ground that it was more easily digested than milk. Since then it has been considerably used, not only in the feeding of infants, but also in stomach diseases, in albuminuria, and in diabetes. In recent years it has been in considerable demand and has been furnished by milk dealers to customers who demanded it, and by the glass in many restaurants, and at lunch counters and soda fountains. The demand has become so great that various products of the dairy have been sold under the name of buttermilk.

H. G. Piffard, of New York, who contributed "A Study of Sour Milks" to the *New York Medical Journal*, Jan. 4, 1908, says that he has not been able to find any buttermilk throughout the whole Island of Manhattan; referring, he explains, "to the old-fashioned country buttermilk obtained when sour cream is churned." He learned from an officer of the company that the buttermilk sold by one of the large distributing concerns in New York is obtained in the following way: "The fresh milk, after cooling, is put through a separator, and the cream comes down to the city for distribution to our patrons. This leaves the skimmed milk on our hands. The health board will not permit us to bring sweet skimmed milk into the city, so the man at our skimming station puts in a starter in order to sour it as quickly as possible, and when sufficiently soured it is brought to the city. Here we mix it with some whole milk, churn it, and after removal of the butter it is ready for distribution." This is probably a fair description of the better class of buttermilk of commerce.

Buttermilk is one of the varieties of sour milk, and the one most commonly used in this country. Among other preparations of milk, made by the action of the lactic-acid-producing bacteria and containing lactic acid, is kumiss or kumyss, introduced to the profession of New York about thirty years ago by Dr. E. F. Brush. This beverage originated among the Kirghis tribes and the Tartars who live on the vast plains or steppes of southeastern Russia, bordering on the Caspian Sea. It is made from the milk of mares, preferably those which are light colored and unbroken, pasturing near mountain ranges where they can get running water and salt beds. They should be able to bathe frequently and must not be allowed to eat hay or oats (Burney Yeo). The milk undergoes both lactic and alcoholic fermentation, the lactos being converted partly into lactic acid and partly into alcohol and carbonic acid. Kumiss contains about 1 per cent., each, of proteins, fatty matter and lactic acid, 1.5 per cent. of alcohol and 2 per cent. of lactose (Friedenwald). On account of the impossibility of obtaining mares' milk in this country in sufficient quantity to manufacture kumiss for commercial purposes, it has been made by Brush and others from cows' milk.

In Asia Minor, Armenia, Persia, Turkey, Arabia and other eastern countries, cows' milk which has been boiled and then subjected to the lactic-acid fermentation has been extensively used, for many generations, as an article of diet. This is known in Turkey as toghoord and is also called oriental fermented milk. In the large cities of this country the demand for and sale of fermented milk have made its production a large industry. There are two kinds of this fermented milk: one thick, like jelly or condensed milk; the other liquid, like buttermilk or kumiss. The former differs from kumiss in not containing alcohol or carbonic acid in notable quantity. The casein is partially digested.

Following the extensive studies, during the last three or four decades, of the bacteria, and especially of the bacteria of fermentation, and in particular of the bacteria of the lactic-acid fermentation, the idea was conceived by the manufacturing pharmacists who offer bacteriologic products to the profession of furnishing pure cultures of various individuality of the lactic-acid bacilli group. These are recommended for use in two ways: (1) to sour milk and to produce a sort of artificial buttermilk; (2) to be taken into the stomach with the expectation that they will undergo multiplication there and in the intestines, and thus aid digestion and prevent or diminish the growth within the alimentary canal of other less useful and positively injurious bacteria, such as those which accompany putrefaction, and whose development is associated with the production of various toxic substances which give rise to toxemia.

**The Profession and the Legislatures.**—The *New York State Journal of Medicine* says that the profession has not fared well at the hands of legislators. The legislation secured to elevate the standard of the profession and protect the public from quacks has resulted, with the help of the same legislatures, in turning turkish-bath rubbers into doctors, and the optician has succeeded in usurping some of the most delicate functions of the physician. If the legislature continues to license successive schools of quackery we may well question the wisdom of state control of license to practice medicine. On account of this and on account of the general education in hygiene and preventive medicine, the income of the profession has been greatly diminished. The remedy would be to increase the fees, but this could not be effected without thorough organization and loyalty to each other on the part of the doctors. The New York journal says further that it is the universal opinion that an agreement in regard to fees would not be respected, and that this assertion is striking proof that there is real distress in our ranks, and that medicine is degenerating into a vulgar game of grab, a sordid struggle for mere existence.

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[*For other information see second page following reading matter*]

SATURDAY, MARCH 12, 1910

## THE AMERICAN MEDICAL ASSOCIATION—ITS POLICIES AND ITS WORK

### III. ORGANIZATION AND REORGANIZATION[1]

During the past nine years the American Medical Association has accomplished more for the improvement of conditions in the profession and for the good of the public than during all the previous years of its existence. This is a strong statement, but a true one. What has been accomplished was made possible by the reorganization of the Association and its various branches in 1901. As the progress of the last nine years would have been utterly impossible without this reorganization, it will be well, before considering the work of the Association, briefly to review its history and development and to show what this change in the organization meant. To do this will be to repeat matter that appeared in The Journal previous to nine years ago, but, inasmuch as over 40,000 physicians have entered the medical profession since 1901 and as between 45.000 and 48,000 physicians are now reading The Journal who did not read it then, the matter will bear repeating.

The first meeting for the organization of a national medical association was held in May, 1846, in response to a call issued by the Medical Society of the State of New York: "That a national convention from medical societies and colleges in the whole union convene in the City of New York for the purpose of adopting some concerted action on the subject of medical education." At its February, 1846, meeting the same society adopted a supplementary resolution: "That the first resolution did not contemplate the appointment of delegates by county or merely local societies in those states whose delegates are appointed by the regularly organized state societies." The original intention, therefore, was to limit representation to state societies wherever such existed, and that local societies should be represented only where there was no state organization—an interesting point, in view of later developments. The second national convention (Philadelphia, 1847) was really the first meeting of the American Medical Association and the one at which the plan of permanent organization was adopted. This plan provided for representatives not only from "permanently organized medical societies," whether local, district or state, but also from medical colleges, hospitals, asylums, etc. Each body entitled to representation could send one delegate for every ten members. Later, representation was limited to medical societies, the only addition being that the three government medical services were each allowed to send representatives.

At that time a physician could become a member of the American Medical Association only by being elected a delegate to the Association, and after his delegated powers had expired he could remain as a "permanent member," but without the right to vote. Restricting the right to vote to actual delegates, by the way, was continued in spite of repeated efforts to change the law. This right in the American Medical Association has always been limited to those who have been duly appointed or elected delegates. While the number of societies—and consequently the number of delegates and "permanent members"—continued to increase, no modification was made in the by-laws that specified which societies should be regarded as "affiliated,"[2] neither was the basis of representation changed.

The majority of the delegates in attendance at any gathering previous to reorganization came from those states contiguous to the place of meeting, and thus that portion of the profession living near the meeting-place always could—and frequently did—control the action of the whole Association. Hence the composition of the General Meetings—the business body—was fortuitous, depending almost entirely on the location; the meetings were frequently so large as to make it impossible to transact business or, on the other hand, so small that sometimes there were not more than a dozen present when important action was taken.[3] At the annual sessions delegates with the right to vote were seated with "permanent members" (ex-delegates) and "members by application," etc., so that it was impossible to distinguish the voters from the non-voters. So large had the number in attendance at the "General Meetings" become that many received the impression that the Association was a mass-meeting of individual members and not a delegated body—an assumption without justification. The large number of delegates made a roll-call or verification of the vote impossible, so that all measures had to be passed *viva voce*.[4] Scientific matters, reports of committees, resolutions, and parliamentary tactics were so inextricably mixed as to make the orderly and effective transaction of business impossible.

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[1] Chapters I and II appeared last week, page 796.

[2] There were in Chicago in 1901 the following "affiliated societies," each of which was entitled to send one representative for every ten, or major fraction of ten, of its membership: Chicago Academy of Medicine, Chicago Gynecological Society, Chicago Laryngological Society, Chicago Medical Society, Chicago Medico-Legal Society, Chicago Neurological Society, Chicago Ophthalmological and Otological Society, Chicago Orthopedic Society, Chicago Pathological Society, Chicago Pediatric Society, Chicago Physicians' Club, Chicago Society of Internal Medicine, Chicago Society of Medical Examiners, Chicago Therapeutic Society, County Hospital Alumni Society, North Chicago Medical Society, Scandinavian Medical Society of Chicago.

[3] "On the first day the General Session is not scheduled to begin until 11 a. m., and the opening exercises and President's address, together with the reports, take up that day's session. The average time of the other three days will be less than 2½ hours, making a total of 7½ hours. The three orations and the time devoted to opening the meeting will take more than an hour each day. This leaves but 3½ hours to be devoted to miscellaneous business, including the necessary reports that come in day by day from the various committees appointed at the meeting. The last day's session is nearly always a short one, so that it is believed that the total time allowed for the transaction of business at each annual session of the Association does not amount to more than three hours. The fact that important business is neglected and that problems of vast import to the profession and the people are not considered, has been known and appreciated for years." See "Preliminary Report of Committee on Organization," The Journal A. M. A., May 25, 1901.

That the need of reforms was realized is shown by the transactions of the Association from its organization to 1901. That the profession was anxious and willing to bring about better conditions is evidenced also by the fact that practically everything that the Association has done in the past nine years, and that it is now doing, had been suggested and discussed long ago; lengthy resolutions as to what ought to be done had been repeatedly and enthusiastically adopted. In other words, the Association had *expressed* itself on every possible topic, but, in actual constructive work, had *done* practically nothing. The reason for this is apparent when one considers what the annual meetings of the Association were and how its business body was constituted. The wonder is ~~not~~ that it did so little, but that it did so much; for the practical scope of the Association's activity, aside from purely scientific work, was limited to the passage of resolutions and the exercise of the moral influence of the organization.

As early as 1869, and particularly in 1874, 1881, 1887 and 1894, different propositions for changing conditions were suggested. In 1887 a committee that had been previously appointed submitted a new plan of organization, including a constitution and by-laws, which in their essential provisions were almost identical with those finally adopted in 1901. As a matter of fact, this plan was actually adopted, but later, through parliamentary technicalities, the question became involved in a tangle which was never satisfactorily straightened out.

Finally, at the Atlantic City session (1900), a committee of three was appointed to take up the whole matter and to suggest changes which would cover the entire country and unite the profession into a solid and well-organized body.[5] This committee first studied the plans of other organizations, especially medical bodies, including particularly the various state and county societies. On the results a tentative plan was outlined which, however, differed essentially from that finally recommended and adopted. The committee held meetings in different cities, calling on local men for suggestions, advice and criticisms, which were forthcoming and resulted in modifying the original scheme. A plan was then drafted and 500 copies of it were sent to as many physicians in the various parts of the country from whom many valuable criticisms and suggestions were received. The plan, still further modified and accompanied by an "argument" of some 5,000 words, was then printed in THE JOURNAL two weeks before the meeting in order that all members might have an opportunity to become familiar with it.[6]

At the St. Paul meeting, in 1901, the matter was referred to a large committee composed of one member from each state and of the standing business committee, itself including thirty-nine members, making in all a committee representative of the whole country. Several sessions were held and every phase of the subject was discussed with thoroughness, further modifications and changes being suggested. This committee finally recommended the new constitution and by-laws, and the next day the general meeting adopted them, almost unanimously.

Probably no subject of interest to the medical profession was ever given more careful thought and study by so large a number of competent men as was this problem of the reorganization of the national, state and county societies—in other words, the organization of the medical profession of the United States. The final result was not the work of a few men, but of hundreds of the most prominent and able members of the medical profession.

The real changes made, so far as the American Medical Association was concerned, were only three: (1) the right of representation was restricted to state associations; (2) the apportionment was so modified as to provide that the total number of delegates should not exceed 150; and (3) this body of 150 members, instead of coming together as a "General Meeting" of the American Medical Association, as was the case previous to 1901, was given the distinctive name of the House of Delegates of the American Medical Association. These three essential changes, and these alone, were made in the organic law of the Association, and yet how marvelous have been the results.

The organization of a distinct, representative, delegated business body, which could devote its entire time during an annual session to the transaction of business, made it possible for the Association to assume activities long contemplated, but never before realized. The most important results achieved are the systematic organization of the profession; the establishment of the Council on Pharmacy and Chemistry, with its epoch-making work; of the Council on Medical Education, which has done more for the improvement of educational conditions in medical schools in the last seven years than had been accomplished in the fifty-five years preceding; of the Committee on Medical Legislation, capable of adopting a permanent legislative policy and, through its bureau, of carrying it out into practical legislation; the compilation and publication in five years of two editions of the American Medical Directory, together with the accumulation and arrangement of an enormous amount of biographical material of incalculable value; the public educational work of Dr. J. N. McCormack; the invaluable work of such committees as those on Ophthalmia Neonatorum, Nomenclature and Classification of Diseases, Defense of Medical Research, Public Instruction on Medical Subjects, etc.—in short, the carrying into actual effect of the suggestions and recommendations of the most progressive members of the Association for the last fifty years. These results fully justify the statement made in the beginning of this editorial, that the Association has actually accomplished more in the last nine years than had been accomplished in its entire previous existence.

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[4] In this connection an incident that occurred at the St. Paul meeting—the last held under the old plan—is worth recalling. An important motion was before the house and, before the vote was called for, a member insisted that the massing together of voters (delegates) and non-voters made a *viva voce* vote an absurdity and he demanded a call of the roll. Then some one asked how long it would take to call the roll and it was suggested that as there were 1,767 delegates present it would require several hours. It was therefore moved that the vote on the question be postponed until the following year—a motion that was carried, as the minutes show, "amid laughter."

[5] This committee consisted of Dr. W. W. Keen, the retiring president, Dr. J. N. McCormack and Dr. George H. Simmons. After finding that the work of the committee as outlined would require too much time and travel, Dr. Keen resigned and Dr. P. M. Foshay, of Cleveland, was appointed in his place.

[6] See THE JOURNAL A. M. A., May 25, 1901.

The effect of reorganization on the state and county societies will be considered next week.

## SOME RECENT OBSERVATIONS ON INHERITED SYPHILIS

After Schaudinn had brought forward the *Spirochæta pallida* as the probable cause of syphilis, the finding that gave the strongest support to the claims of this organism as the long-sought specific cause of syphilis was undoubtedly the positive results obtained by investigation of children born dead with inherited syphilis. The presence of spirochetes, sometimes in enormous numbers, within the internal organs of syphilitic fetuses freshly delivered under aseptic conditions, could not well be explained on any other basis than that they are the specific etiologic factor of the disease, and the abundant verification of this fact soon compelled acceptance of the spirochete by many who at first had been skeptical. And until by successful cultivation and inoculation all the laws of Koch have been satisfactorily and repeatedly fulfilled it will be the findings in the congenitally syphilitic fetus, rather than the observations in acquired syphilis of adults, by which the defenders of Schaudinn's organism will resist the attacks of those who would deny its claims. Conversely, the demonstration of the spirochete and the subsequent introduction of the Wassermann reaction have thrown much light on the unsettled points in the pathogenesis of inherited syphilis, and especially on the true significance of that much disputed law of Colles.

From the very first the investigations of syphilitic fetuses demonstrated as a striking feature that the number of the spirochetes to be found in the fetal tissues was often very great, far more than were usually found in the lesions of adults. Also the spirochetes when present in the placenta were found only in the fetal portion, and practically never in the maternal elements.[1] These facts were thought by some to speak in favor of the view that paternal infection of the fetus might occur, with secondary immunization of the uninfected mother, as has been assumed from the original statement of Colles' law. On the other side, the demonstration that the cause of syphilis was an organism of some size made it improbable that paternal infection of the ovum could be a cause of inherited syphilis; how could a spermatozoon laden with a large motile spirochete ever reach the ovum, and if it did reach and penetrate the ovum could successful development of the germ cells possibly take place in the presence of so pathogenic an infectious agent? That the spirochetes are more abundant in the tissues of the fetus than in those of the mother does not prove that they have first infected the fetus, but rather and more probably means that they find a less resistant soil in the undeveloped embryo; this view has support from the conditions existing in congenital tuberculosis, for in these cases, in which infection certainly occurs from the mother, the tubercle bacilli have been found in enormous numbers in the tissues of the fetus.

By combining the Wassermann test of both fetal and maternal blood with microscopic search for the spirochetes, Baisch[2] has reached more satisfactory conclusions as to the relations of mother and child in inherited syphilis than is possible by the use of either method alone. As has been pointed out by previous investigators, the positive result of the Wassermann reaction with the blood of the mother of a syphilitic fetus does not help us in our analysis of Colles' law, for if the fetus is syphilitic the mother might well have syphilitic antibodies in her blood without being infected, the antibodies being either derived directly from the fetal blood or formed by the mother in reaction to soluble toxic substances absorbed from the fetus. In this case, the assumption that the mother is rendered immune by her syphilitic fetus without herself being infected would be corroborated. However, Baisch seems to settle this point by finding that the hemolysis-inhibiting substance does not pass through the placenta in either direction, for in several cases it was found that the mother's blood gave a positive Wassermann reaction while the blood of the fetus gave a negative reaction, and in other cases the conditions were reversed. Also, of one hundred and sixteen cases of maternal syphilis there were twelve instances in which the blood of the mother gave a negative reaction in spite of the presence of a syphilitic fetus in which spirochetes were demonstrated. Baisch is convinced that the hemolysis-inhibiting substance is developed only in the organism in which the spirochetes exist, and also that the immunity of the mothers of syphilitic offspring always means that the mother has been infected with syphilis. This conclusion is entirely in harmony with the view arrived at by many careful clinical observers, and has also received support on the basis of the Wassermann reaction alone by Bergmann.[3]

Other findings of importance in connection with the application of the new methods of study to congenital syphilis that may be mentioned are the following: Of one hundred and two mothers giving birth to syphilitic fetuses, there were but twenty-seven, or 25 per cent., who showed any clinical evidence of either recent or old syphilitic lesions; the other seventy-five, however, all gave positive Wassermann reactions in spite of the absence of demonstrable lesions. Of all macerated still-born fetuses 80 per cent. of one hundred and forty investigated were the result of syphilitic infection, as shown either by the presence of spirochetes or positive serum reactions, but habitual abortion during the first four months of pregnancy was not found to be associated with syphilis. In the milk of syphilitic mothers antibodies may be present in large amounts,[4] and it is possible that this fact may be utilized to advantage, for it would probably be of benefit to syphilitic infants to receive such milk. It is possible that when the maternal infection is not virulent the placenta may be impervious to the spirochetes and protect the child, but when separation of the placenta takes place infection of the wounded placental surface may occur, thus explaining the cases in which the first lesions of inherited syphilis appear some weeks after birth.[5]

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[1] Mohn: Ztschr. Geb. u. Gyn., 1907, lix, 263; Pauli: Bull. Johns Hopkins Hosp., 1908, xix, 326.

[2] Baisch, K.: München. med. Wchnschr., 1909, lvi, 1929.

[3] Med. Klin., 1909, v, 1219.

In still-born syphilitic fetuses the spirochetes resist maceration surprisingly well, in spite of the fact that they lose their virulence so soon after death that it is traditional in autopsy rooms that infection from syphilitic cadavers is almost impossible, no matter how fresh they may be; apparently loss of virulence is not associated with loss of structure and staining power in the case of the spirochetes. They are remarkably widespread in dead fetuses, being most frequently found in the adrenals, in which they can be detected in 97.5 per cent. of all cases, according to Trinchese, while in 53 bodies Bab found them in the lungs in 87.5 per cent., in the pancreas in 80 per cent., and in the skin, nose and eyes in from 67 to 25 per cent. Children with symptoms or signs of hereditary syphilis give a positive Wassermann reaction in 100 per cent. of all cases examined (Bergmann), and it is also possible for a syphilitic mother to give birth to a healthy infant which gives a positive reaction without ever showing evidences of infection. Infants born apparently sound and later developing evidences of syphilis do not give a positive reaction until the signs of infection manifest themselves.

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## THE PHYSICIAN AS A CITIZEN

That physicians as a class neglect or evade the ordinary duties of citizenship, and do not measure up to their opportunities and obligations in the large questions of public welfare, is a statement that is often made. While we do not admit that this is true to any great extent, yet it cannot be denied that there are grounds for this impeachment. An editorial in the February number of the *Southern Medical Journal* on "The Physician as a Citizen" discusses this in an interesting way. It states that there is no sufficient reason why the physician should consider himself in a separate class from other men regarding the obligations of every-day life, but that this is a course which he has long pursued, and which is coming more and more to be criticized and condemned. In defense of this attitude, the *Journal* says that the word "duty" is as sacred to the physician as to any other man, but to the physician the most important problems of duty may seem those relating to his patients and not to society in general; and perhaps from the viewpoint of the patients it is well that it should be so. But the medical man, no less than other men, has solemn obligations to nation, state and municipality, and it is his attitude of evasion and inertia which has contributed to the perversion of law and the demoralization of politics. The editorial further says that it is no excuse for the physician to plead the exactions of his practice as a reason for failure to exercise his suffrage or to manifest a becoming concern in the proper administration of public affairs. The lawyer, the clergyman and the merchant, though absorbed in their several callings, cannot be charged with habitually ignoring the call of civic duty and the opportunities of enlightened citizenship.

This would seem to be putting the case too strongly. We are hardly willing to admit that the physician so completely neglects his civic or political duties as is here indicated. Physicians are found taking part in every branch of governmental affairs, in local offices, in state legislatures, in Congress, and in the diplomatic service. A closer investigation would, it is believed, reveal the fact that perhaps as large a proportion of physicians vote and attend to the ordinary duties of citizenship as of any other business or profession. Indeed, it is one of the present-day complaints that business men of the better class do not sufficiently interest themselves in politics. Besides, as stated in the editorial, on account of the peculiar relationship of the physician to the people, a critical public soon learns to look with distrust on the physician who concerns himself to any extent with politics, sport or any other extraneous pursuit.

The *Southern Medical Journal* concludes its editorial by suggesting the sphere in which the real opportunity lies and in which the obligation of the physician as a citizen may find its largest and most useful expression. It says that an awakening public is beginning to realize that the fundamental condition of all social and material prosperity is the health and vigor of the people. The present agitation in health matters is most remarkable. To insure the results which should follow a movement so widespread and so earnest, the forces at work must be wisely directed, else they will be wasted in fruitless effort. This guidance the medical profession must furnish or fall short of the full measure of its usefulness. This defines clearly the field in which the physician can best fulfil his duty as a citizen, and it is to be deplored that in the active public movement against tuberculosis, for instance, so many laymen rather than physicians have been the leaders. Other problems almost equally important press for solution, and the physician should take his proper place as leader and guide in the work. For, as stated in the editorial from which we have largely quoted, the broad-minded physician of the twentieth century, his talents dedicated to a life of service, cannot refuse to recognize the larger obligations of his calling, and should cheerfully and gladly assume his portion of the burden they entail.

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[4] Bab: Ztschr. Geb. u. Gyn., 1907, lx, 161.
[5] Lucas: Lancet, Feb. 1, 1908.

## HABITINA AND OTHER MAIL-ORDER DRUG CURES

One of the vicious mail-order drug "cures" which flood the market is discussed in this issue.[1] Free samples of this particular "cure" may be had for the asking, each sample containing enough morphin sulphate and heroin hydrochlorid to kill seven or eight healthy adults. Before the national Food and Drugs Act was passed this dangerous mixture could be sent through the mails with nothing on the label to show its tremendous potentialities for harm; now, fortunately, the label has to declare the amount of heroin and morphin the product contains. This is a splendid advance so far as it goes, but it does not go far enough. Most of the state laws recognize the principle that the public should be protected against itself; hence we find statutes forbidding the sale of dangerous drugs by pharmacists to laymen, except under certain restrictions. There is no law, however, which can be invoked against the ghouls who, for the sake of the dollar, take advantage of the impotency of the present postal regulations to sell that which will debauch and destroy their helpless victims. There is something radically wrong when irresponsible and conscienceless men, without even the pretense of scientific training or ability, should be able to use the United States mails and the express companies to scatter broadcast potent drugs of the most dangerous type. That it should be possible for the ignorant or the criminal to obtain without let or hindrance morphin and heroin in quantities limited only by the ability to pay for them, is a disgrace to a civilized country and a serious menace to public health.

## THE PHARMACOPEIAL DELEGATES

We publish this week a supplementary list of delegates to the Pharmacopeial Convention. From these lists[2] it appears that, of the one hundred and twenty-seven institutions and organizations represented in the Convention of 1900, but seventy-three have thus far notified the committee of the appointment of delegates; while twenty-nine new organizations may be added. Only nineteen state medical associations and twenty-seven medical schools have appointed delegates; in the pharmaceutical list twenty state associations, five other than state, and twenty-five colleges of pharmacy have made appointments. The lists also show that there are thus far appointed one hundred and thirty-six medical delegates and forty-five alternates; and one hundred and forty-three pharmaceutical delegates with one hundred alternates. In the latter list a number of names are duplicated, certain of them appearing in the lists of delegates and again among the alternates, showing a more diligent interest and definite determination to secure representation. The indifference of the medical schools is apparent; of the one hundred and forty-nine institutions listed in our Educational Number, Aug. 14, 1909, but twenty-seven have thus far indicated their interest in the Pharmacopeia by complying with the requirements and notifying the committee of the appointment of delegates. Notwithstanding all the agitation in the past few years, the much-advertised U. S. P. Propaganda, the get-together meetings of doctors and druggists and the as yet unsatisfied demand from many schools for competent pharmacologists who shall lay the foundations for a safe and sane therapy, our institutions are disregarding the tools already within their hands.

## TACTICS OF THE PRESERVATIVE PEOPLE

The members of the American Medical Association all over the country are receiving from one H. L. Harris, "publicist," 100 William Street, New York City, typewritten copies of matter attacking the editor of THE JOURNAL. It is probably unnecessary to remind our readers that Harris, who sometimes signs himself as H. H. Langdon, "food expert," has been previously shown up in THE JOURNAL as the press agent for the Pacific Coast Borax Company, 100 William Street, New York City. The motives will be fully appreciated if the previous articles dealing with this gentleman's activities are read, and, for the benefit of those who have not kept the back copies of THE JOURNAL, reprints have been made and will be sent on request.[1]

# Medical News

## CALIFORNIA

**Only One Physician in County.**—It is asserted by the San Francisco *Call* that there is only one physician in Trinity county, and that it recently became necessary to import a physician from another county to make up the commission required to pass on a case of insanity.

**Hospital News.**—The supervisors of Contra Costa county have accepted plans for the new county hospital to be erected in Martinez. The building will have a frontage of 118 feet, will be 68 feet deep, two stories and a basement in height, and will include accommodation for 36 ward patients and a number of private patients.——Dr. S. P. Purlenky, Fort Bragg, has purchased the Fort Bragg Hospital from Dr. Birney A. Lendrum.——Contracts are about to be let for the construction of a cement fireproof building for the St. Caroline Sanitarium Association at Redding, to cost $20,000.

**Personal.**—Dr. Jonas Clark, Gilroy, has been appointed physician of San Jose county, vice Dr. Howard B. Gates, San Jose.——Dr. Charles E. Zerfing has been appointed police surgeon of Los Angeles.——Dr. William F. McNutt, Jr., has been appointed health officer of San Francisco; Dr. George W. Goodale, city physician; Dr. Edward S. Howard, chief surgeon of the Central Emergency Hospital; Dr. Emmett LeR. Wemple,

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[1] Pharmacology Department: "Habitina," page 889; also Original Articles Department: "Blindness from Heroin in Nostrum 'Habitina,'" page 869.

[2] The first list, to which the present one is supplementary, appeared in THE JOURNAL, February 26.

[1] Send a stamped addressed envelope for reprint. The articles appeared in THE JOURNAL, Oct. 5, 1907, p. 1191; Feb. 13, 1909, p. 562, and Jan. 1, 1910, p. 55.

Jr., medical inspector of schools, and Dr. Sidney R. Dannebaum, city bacteriologist.——Drs. John F. Richards and John F. Sullivan have been appointed members of the Pension Board of San Francisco Police Relief Fund.

**Public Health Degree at Oakland College.**—The Oakland College of Medicine and Surgery has elected Passed Assistant Surgeon W. Colby Rucker, U. S. P. H. and M.-H. Service, professor of public health and mental hygiene, and at his suggestion the college will offer next year to graduate physicians a course leading to the degree of Doctor of Public Health. This course will cover one year and will include personal and general hygiology; epidemiology; practical sanitation, parasitology; tropical medicine; sanitary law; inspection of milk, meats and other food products; factory inspection; public water supply; sanitary chemistry; sanitary architecture; vital statistics, and the economics of disease.

## GEORGIA

**Society Wants Permanent Home.**—The Georgia Medical Society, Savannah, at its February meeting, discussed plans for the establishment of a library and the building of a permanent home for the organization, containing club quarters and laboratories.

**Fined for Selling Cocain.**—Dr. Henry B. Stanley, Savannah, formerly coroner of Chatham county, is said to have been fined $1,000, with the alternative of imprisonment, for violation of the state anticocaine law.

**Joint Tuberculosis Hospital.**—Fulton county has joined the city of Atlanta in the movement to build a tuberculosis hospital for the treatment of local patients. The county commissioners have appropriated $15,000 for the fund and the city of Atlanta has already made an appropriation of $10,000 for the purpose.

**Reelected Member of Hospital Board.**—Dr. Walter A. Crowe, Atlanta, who resigned recently from the medical board of Grady Hospital, was unanimously reelected a member of the board, February 22. The board consists of eighteen members, six each from the Atlanta College of Physicians and Surgeons, the Atlanta School of Medicine, and the city at large.

## ILLINOIS

**Hospital Incorporated.**—The M. A. Montgomery Memorial Sanatorium has been incorporated at Charleston with a capital stock of $12,000. The object is stated to be to conduct a hospital and training school.

**Gift to Retiring Superintendent.**—At an informal gathering at the Elgin State Hospital, February 26, Dr. Vaclav H. Podstata, the retiring superintendent, was presented by the employees with an order for a library of medical books.

**Tent Colony to Be Established.**—Dr. J. Rex Sholl, health commissioner of Peoria, has completed arrangements for a summer tuberculosis colony on the Galena Road, on a tract of land owned by Dr. George A. Zellar, superintendent of the Peoria State Hospital. On this tract a large tent is to be erected for kitchen, dning-room and administration headquarters, and small tents will be provided for patients. The colony will open about April 15.

**Personal.**—In the Sangamon County Circuit Court, on February 24, Dr. Harry C. Blankmeyer, Springfield, was found not guilty of malpractice in the suit brought against him by John Nealon, in which damages of $5,000 were claimed.——Dr. Thomas C. Buxton, Decatur, coroner of Macon county, has been elected secretary of the Coroner's Association of Illinois.——Dr. Guy J. Wormley is reported to be seriously ill with pneumonia at his home in Sandwich.——At the annual meeting of the Alton Medical Society, February 24, Dr. Thomas L. Foulds was elected president; Dr. James M. Pfeiffenberger, vice-president; Dr. J. Bernard Hastings, secretary, and Dr. Waldo Fisher, treasurer.

### Chicago

**Vice Commission Named.**—A vice commission of thirty to investigate and report on the social evil has been named by the mayor, including criminologists, socialists, educators, jurists, lawyers, and the following physicians: Drs. William A. Evans, William Healy, Anna Dwyer, James Nevins Hyde, William L. Baum and Louis E. Schmidt.

**Maternity Hospitals.**—It is proposed by the board of directors of the Chicago Lying-In Hospital to erect maternity hospitals on the south, north and west sides, to cost approximately $150,000. The site for the south side institution has already been chosen, and the north side institution may be located near the Children's Memorial Hospital.

**The Work of the Pasteur Institute.**—The Chicago Pasteur Institute for the Preventive Treatment of Hydrophobia and the Study of Infectious Diseases, in its nineteenth annual report, announces that since its inauguration, 4,158 patients have received anti-hydrophobic treatment. Of these 1,583 came from Illinois, 659 from Ohio, 355 from Wisconsin, 224 from Iowa, and 208 from Indiana. Only 8 patients died, equivalent to a mortality of 1.9 per 1,000. Of the cases reported, 3,651 were bitten by dogs, 151 by cats, 134 by horses, 37 by skunks, 6 by wolves, 65 by cows, 14 by calves, 2 by burros, 7 by coyotes, 8 by mules, 9 by pigs, 2 by sheep, 14 by squirrels, 1 each was bitten by a rat and a monkey, and 56 were infected by hydrophobic human beings.

## INDIANA

**Personal.**—Dr. and Mrs. George W. Spohn, Elkhart, leave for Europe this month.——Dr. Isaac W. Inlow, Blue Ridge, is reported to be critically ill with cerebral hemorrhage.——Dr. Samuel C. Darroch, Cayuga, was thrown from his buggy while crossing a flooded culvert, February 22, and suffered severe cuts and bruises.——Dr. Charles F. Knue, intern at the Indianapolis City Dispensary, has resigned and will practice in Indianapolis.——Dr. D. L. Field has been elected president and Dr. Oliver P. Graham, secretary of the Jeffersonville Board of Health.

**Society Meetings.**—Hamilton County Medical Society, at its annual meeting and banquet in Noblesville, February 18, had as a guest Dr. Thomas C. Kennedy, Shelbyville, president of the Indiana State Medical Association, who delivered an address on the "Relation of the State Society to the County Society," and Dr. J. P. Simmonds, pathologist of the state laboratory, who read a paper on the "Early Recognition of Diphtheria." Dr. Thomas O. Redden, Jolietville, was elected president; Dr. Milton C. Haworth, Noblesville, vice-president; Dr. Julian E. Hanna, Noblesville, secretary-treasurer, and Dr. Frederick A. Tucker, Noblesville, delegate to the state medical association.——At the annual meeting of the Physicians' Club of Mishawaka, February 7, Dr. Henry C. Holtzendorff was elected president and Dr. James G. Bostwick was reelected secretary.

## KANSAS

**County Society Meeting.**—The Franklin County Medical Society, at its seventh annual meeting, held in Ottawa, January 26, elected Dr. John M. McWharf, president; Dr. Edward B. Gossett, vice-president, and Dr. James Ball, secretary-treasurer, all of Ottawa.

**Personal.**—Dr. R. A. Young has been appointed a member of the medical staff of the Topeka State Hospital.——Drs. S. T. Zinke and Clarence C. Goddard have been suggested by the Leavenworth Medical Society as sanitary officers to serve without pay and to hold office until December 31.——Dr. Samuel T. Gillespie, Lawrence, has been appointed health officer of Douglas county, vice Dr. John C. Rudolph, Lawrence.——Dr. Henry A. Nave, Kansas City, has been appointed police surgeon.——Dr. Francis C. Herr, Ottawa, has been appointed physician and health officer of Franklin county, vice Dr. Willis L. Jacobus, Ottawa.

## KENTUCKY

**University News.**—The mayor of Louisville has transferred to the general council the names of Mr. Bruce Haldeman and Mr. Marion E. Taylor as trustees of the University of Louisville for ten years, the terms of the Hon. David Fairleigh, president, and Dr. Louis Ryans having expired. The council has been asked for an appropriation of $25,000 for the support of the academic department.

**Infected Books.**—A plan has been formulated by the librarian of the Louisville Free Public Library for handling books in homes where a communicable disease has been reported. In cases of smallpox and diphtheria the books are destroyed; in other cases a notice is sent to the infected house, requesting that library books there be delivered to the health officer when the house is disinfected. The health officer is notified that books are being held for disinfection, and after disinfection, a certificate to that effect is placed in the book by the disinfector.

**Personal.**—Dr. Thomas C. Evans, dean of the Medical Department of the University of Louisville, has resigned, to take effect July 1. His successor has not yet been appointed.——Dr. Americus V. Menefee, Williamstown, has been elected secretary of Grant County Board of Health.——Dr. James E. Stone has been elected secretary of the Hopkinsville Board of

Health.——Dr. Darwin Bell, Gracey, has been elected a member of the Christian County Board of Health.——Dr. Henry C. Smith, Allen Springs, is reported to be critically ill with pneumonia.

## MARYLAND

**Pure Food Bill Passed.**—The pure food bill, championed by Dr. Thomas A. Ashby, Baltimore, passed the House of Delegates unanimously and without change, March 4, and has now gone to the senate.

**Publicity Campaign Against Blindness.**—The Maryland Society for the Prevention of Blindness has issued an appeal for a publicity campaign to instruct the public regarding the means of preventing ophthalmia neonatorum and other diseases which may cause blindness.

**Lunacy Bill Amended.**—The bill providing for the state care of the insane has been amended, and now provides for a bond issue of $600,000, for the purchase of 250 acres of land for the negro hospital, and an appropriation of $100,000 for the use of that institution; $270,000 to the Springfield Hospital; $80,000 for the Spring Grove Hospital, and $150,000 for the Owings Mills Institution for the Feeble-Minded.

**Society Meeting.**—At the annual meeting of Georges Creek Medical Association, held in Frostburg, February 26, the following officers were elected: President, Dr. John H. McGann, Barton; vice-president, Dr. James C. Cobey, Frostburg; secretary, Dr. James C. Holdsworth, Eckhart Mines; treasurer, Dr. W. Oliver McLane, Frostburg, and censors, Drs. Timothy Griffith, and J. Marshall Price, Frostburg, and Frank L. Clymer, Midlothian.

**Personal.**—Captain J. Wright Downey, Newmarket, assistant surgeon, First Infantry, Maryland National Guard, has been placed on the retired list.——Drs. Henry P. Fahrney and William G. Bourne, Frederick, have been appointed physicians of the Montevue Hospital.——Dr. John R. Littlefield has been placed in charge of the Emergency Hospital opened at the Western Maryland Central Station, Cumberland.——Drs. Henry M. Hurd and Thomas S. Cullen, Baltimore, left March 4 for a trip through Florida and Cuba.

## MICHIGAN

**County Medical Society.**—At the meeting of the Ontonagon County Medical Association, held in Ontonagon, February 24, Dr. William B. Hanna, Mass, was elected president; Dr. Rudolph, Rockland, vice-president; Dr. John S. Nitterauer, Ontonagon, secretary-treasurer, and Dr. Andrew L. Swinton, Ontonagon, trustee.

**Sanatorium Notes.**—At a meeting of the Ann Arbor Tuberculosis Society, February 6, it was decided to recommend the purchase of the Coleman site for a sanatorium, for $3,500. Dr. Alfred S. Warthin was elected secretary of the society.——Fire in the heating plant of Otter Lake Sanatorium, February 14, did damage to the extent of $200.

**Founders' Day.**—The University of Michigan, Department of Medicine and Surgery, celebrated its sixtieth founders' day, February 15. The principal address was made by Prof. W. E. Parker, whose subject was the work of Dr. George E. Frothingham, Detroit, who resigned from the faculty because the regents refused to move the clinical department of the university to Detroit.

**Personal.**—Dr. George E. Potter has been made a member of the Detroit Board of Health.——On the occasion of the fortieth anniversary of the entry of Dr. Walter H. Bills into practice, he entertained his professional brothers of Allegan with a dinner, at which he was presented with a signet ring.——Dr. Daniel A. Z. Vannoppen, city health officer of Niles, has been appointed deputy state dairy and food inspector.——The members of the Ottawa County Medical Society presented their president, Dr. Thomas G. Huizinga, Zeeland, with a gold-headed cane on the occasion of his fiftieth birthday anniversary.——Dr. Jesse E. Wilson, Rochester, celebrated his eighty-first birthday, January 31.——Dr. Nushan H. Kassabian has been elected secretary of the newly organized Coopersville Antituberculosis Society.

**Mortality of Michigan in 1909.**—The total number of deaths, exclusive of still births, registered during 1909, numbered 35,586, or 13.3 per 1,000 of population. The rate for the previous year was 13.6 per 1,000. The months of maximum mortality were March, April and August. The month of minimum mortality was November. The deaths of infants under one year decreased from 7,451 in 1908 to 7,115 in 1909. The deaths of children from one to four years of age decreased from 2,348 in 1908 to 2,270 in 1909, and the deaths of individuals sixty-five years of age and over increased from 10,667 in 1908 to 10,985 in 1909. The deaths from pulmonary tuberculosis numbered 2,140, a decrease of 24 over the preceding year. Typhoid fever caused 613 deaths, or 43 more than in 1908. Diphtheria caused 375 deaths, or 51 more than for the previous year. There were 82 more deaths from scarlet fever in 1909, and a great increase was noted in the number of deaths from measles. Deaths from pneumonia and bronchopneumonia were 2,150, or a slight decrease over last year. A notable decrease is noted in deaths from diarrhea and enteritis of infants, when 1,515 were noted, as compared with 2,030 for the previous year. The mortality from meningitis, influenza, cancer, violence and smallpox decreased during the year.

## MISSOURI

**County Society Elections.**—At the annual meeting of Jackson County Medical Society, held in Kansas City, March 1, Dr. Herman E. Pearse was elected president, vice Dr. Bennett C. Hyde, resigned, on account of ill health; Dr. Jefferson D. Griffith was installed as vice-president; and Dr. William F. Kuhn, as treasurer. Dr. Edward L. Stewart, the secretary, was installed at the previous meeting; all of Kansas City.

**Personal.**—Dr. Ashman H. Vandivert, Bethany, has been made acting superintendent of State Hospital No. 2, St. Joseph.——Dr. William R. Strickland has been made postmaster of Rockport.——Dr. Forrest V. Keeling, Elsberry, who was operated on for appendicitis in St. Louis, February 3, has returned home convalescent.——Dr. H. V. Good, Henry W. Westover, Oliver C. Gebhart, James K. Graham, Emmett S. Ballard, and Daniel Morton, all of St. Joseph, have been elected directors of the Buchanan County Society for the Prevention of Tuberculosis.

### St. Louis

**Demonstrates Circulation of Blood.**—At the February meeting of the Medical Society of the City Hospital Alumni, Dr. William H. Luedde demonstrated the circulation in the human conjunctiva by means of the binocular microscope with special illumination. The red corpuscles were plainly visible, coursing with variable velocity in the smaller arterioles and capillaries. Attention was called to its use in detecting the earliest changes in arteriosclerosis and the variation in the velocity of the blood current.

## MONTANA

**Society Elections.**—At the annual meeting of Silver Bow County Medical Society, held in Butte, February 23, Dr. Creswell T. Pigot was elected president; Dr. Michael J. Scott, vice-president; Dr. Phoebe A. Ferris, secretary, and Dr. Donald Campbell, treasurer, all of Butte.——At a recent meeting of Missoula County Medical Society, held in Missoula, the following officers were elected: Dr. Harry C. Smith, president; Dr. George M. Jennings, vice-president; Dr. W. Buchanan Parsons, secretary-treasurer; Drs. James P. Aylen, Harry B. Farnsworth, George T. McCullough and William E. Shea, delegates to the state society, and Drs. John G. Randall, Frank D. Pease and Emanuel M. Rundiquist, alternates, all of Missoula.——The Tri-County Medical Society of Custer, Dawson and Rosebud counties, at its annual meeting at Glendive, January 5, elected Dr. Thomas A. MacKenzie, Miles City, president; Dr. Francis S. Gray, Miles City, vice-president, and Dr. Ambrose L. Hammerel, Glendive, secretary.

## NEBRASKA

**Hospital Opened.**—St. Marks Episcopal Church, Hastings, has leased a house at 235 East 7th street, and has opened it as a hospital, to be known as St. Mark's Hospital. The institution will accommodate twelve patients.

**Personal.**—Dr. DeWitt C. Bryant has been reelected president and Drs. Dellizon A. Foote, vice-president of the Physicians Casualty Association, Omaha, and Drs. Frank S. Owen, William F. Milroy and Ralph W. Connell have been reelected directors.——Dr. Harry L. Wells, West Point, has been appointed physician of Cuming county.

**Society Meeting.**—At the annual meeting of Scotts Bluff County Medical Society, held in Mitchell, in January, Dr. George R. Gilbert, Morrell, was elected president; Dr. Claude D. D. M. M. S. Langrall, Minatare, vice-president; Dr. Byron Bailey, Gering, secretary-treasurer; Dr. Andrew J. Faulk, Mitchell, delegate to the state association, and Dr. Alfred J. Stewart, Mitchell, alternate.

**To Test License Law.**—On the request of a number of physicians of Omaha, the State Board of Health has decided to ask Dr. Archibald L. Muirhead, Omaha, to go before the grand jury at Omaha at the next session and testify regarding the conduct of Dr. John T. Mathews, Omaha, alleged to be practicing without a license. Dr. Mathews is said to have had his license revoked about two years ago, but asks a rehearing of the matter on the ground of newly-discovered evidence.

## NEVADA

**Hospital Reopened.**—The Peoples Hospital, Reno, which has been closed for some time, was reopened February 15 as St. George's Hospital.

**Personal.**—Dr. Edward S. Grigsby, Rhyolite, has purchased the practice of the late Dr. Charles L. Hammond, Tonopah.——Dr. Sidney Clark has returned to Tonopah with his sight almost restored, after a severe attack of facial erysipelas.——Drs. John A. Lewis and William H. Hood, Reno, left for a trip around the world, February 5.

**New Officers.**—The physicians of Tonopah, at a meeting, February 23, organized the Nye County Medical Association, and elected the following officers: President, Dr. Sidney Clark, Tonopah; vice-president, Dr. John R. Cunningham, Tonopah; secretary-treasurer, Dr. C. J. Richards, and board of control, Drs. William W. Ashley, Goldfield, Reynold J. Mapes, Tonopah, D. P. McLeod, Tonopah, and Edward S. Grigsby, Rhyolite.——At the annual meeting of Humboldt County Medical Society, held in Winnemucca, January 27, the following officers were elected: President, Dr. Charles E. Swezy, Winnemucca; vice-president, Dr. J. A. Russell, Lovelocks; secretary-treasurer, Dr. Samuel J. King, Winnemucca, and censors, Drs. John P. Martin, Lovelocks, Patrick J. Mangan, Winnemucca, and John Schaffner, Golconda.

## NEW YORK

**Personal.**—Dr. A. L. Benedict, Buffalo, wishes it announced that the publication of extracts from his article on "Some Prevalent False Notions About Diet," that appeared in New York newspapers, was entirely without his knowledge and consent.

**Coroner's Physicians Under Civil Service Law.**—A bill has been introduced into the legislature providing that there shall be four coroner's physicians in Manhattan, four in Brooklyn, two in Queens, two in the Bronx and one in Richmond. The vacancies are to be filled by the coroners in the boroughs in which they occur, subject to the civil service law. The salaries are to be fixed by the board of estimate and apportionment, but are not to exceed $3,000.

**Yonkers' Infected Water.**—The mayor of Yonkers has conferred with the mayor of Greater New York to see if any arrangement can be made by which Yonkers can be permitted to tap the Croton water supply. Dr. William S. Coons, Health Officer of Yonkers, insists on the immediate abandonment of the present source of supply as absolutely unfit, and as responsible for the present outbreak of typhoid fever and for former epidemics. A bill has recently been introduced into the legislature permitting the tapping of the Croton Aqueduct by Westchester towns and cities.

**The State Insane.**—The annual report of the State Commission in Lunacy shows that the number of insane committed in the public and private hospitals at the close of the fiscal year was 31,541, of whom 15,107 were men and 16,434 women. The net increase in all institutions was 1,084; in state hospitals alone, 1,015. The total cost of maintaining the insane during the year amounted to $6,899,287. The commission submits an estimate, for 1910, of $8,420,315, $2,385,315 of this sum being required to provide additions to existing hospitals and for the beginning of work at the newly-acquired site at Yorktown. The estimated cost of maintaining each patient during 1910 and 1911 is $190 a year as against $185 in 1907, and $184.44 in 1908.

### New York City

**Harvey Society Lecture.**—The eighth Harvey Society lecture, given March 19, by Prof. A. Magnus-Levy of the University of Berlin, is on "Pathology and Therapy in Diseases of Metabolism."

**Hospitals Unite.**—The consolidation of the New York Infant Asylum with the Nursery and Child's Hospital under the name of the New York Nursery and Child's Hospital has been approved by Supreme Court Justice Platzek.

**Crusade Against Spitters.**—Members of the health squad have been traveling on trains, trolley cars and boats, warning passengers that they must use cuspidors and not spit on the floors of those vehicles. Many arrests have been made and fines imposed.

**Consumptives to Be Concentrated.**—The Board of Estimate and Apportionment recently took steps toward the concentration of consumptive patients in one hospital. This plan will save the city a large amount of expense annually. This board has been inspecting the property near Otisville, Orange county, where the new sanatorium is to be erected unless too strenuous opposition is made on the part of the residents of that section.

## OHIO

**Medical Periodicals in Public Library.**—The Columbus Medical Library Association has furnished the librarian of the Columbus Public Library a list of 40 domestic and 28 foreign medical periodicals, which are to be placed on file in the library.

**Pasteur Institute Plan.**—A bill has been introduced in the senate to appropriate $1,000 to organize and equip a Pasteur institute for the treatment of hydrophobia, at the Ohio State University, Columbus, and to appropriate $1,000 annually for maintenance.

**Personal.**—Dr. William L. Dick has been reelected medical inspector, and Dr. James A. Beer, chemist and bacteriologist of the Columbus Board of Health.——Dr. Harry H. Drysdale, Cleveland, has been appointed a member of the State Board of Charities.——Dr. Robert W. Crume has been elected district physician of Hamilton, vice Dr. Harry Silver.

**Will Not Admit Advanced Cases.**—The superintendent of the State Sanatorium, Warrensville, has ruled that all applicants must appear before an admittance board, and that persons suffering from advanced tuberculosis will not be admitted, as the object of the sanatorium is to treat incipient cases.

**Society Meetings.**—The Union Medical Association of the Sixth Councilor District met in Akron February 8, and elected Dr. Jacob F. Marchand, Canton, president; and Dr. John H. Seiler, Akron, secretary-treasurer.——At the annual meeting of the North Side (Columbus) Medical Research Society, February 15, Dr. James A. McClure was elected president; Dr. George K. Colville, vice-president; Dr. Adam G. Elder, secretary, and Dr. Earl W. Euans, treasurer.

### Cincinnati

**Hospital Changes.**—The following changes in the staff of the Cincinnati Hospital are announced: junior surgeon, Dr. Dudley W. Palmer; assistant radiographer, Dr. William Daughty, and curators, Dr. Albert J. Bell, vice Dr. Charles S. Rockhill, recently appointed physician of the Branch Hospital, and Drs. Joseph T. Kennedy, Goodrich B. Rhodes and Eugene S. May.

**Personal.**—Dr. Henry Martin Fischer, formerly professor of physiology in the University of California, has been appointed to the lately-endowed Eichberg chair of physiology in the Ohio-Miami Medical College, and Dr. Charles Goosmann has been appointed demonstrator of pathology in the college.——Drs. Nathaniel P. Dandridge, clinical professor of surgery, Alexander G. Drury, professor of hygiene, and Edmund W. Baehr, assistant professor of physiology in the Ohio-Miami Medical College, have resigned.

## PENNSYLVANIA

### Philadelphia

**Resolutions Regarding Dr. Stanton.**—The staff of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis, at its meeting February 21, adopted resolutions eulogistic of the late William Bancroft Stanton, and expressing its sense of profound grief and irreparable loss in his death.

**Fills Vacancy.**—At a meeting of the trustees of Jefferson Medical College, Dr. Francis T. Stewart was elected professor of clinical surgery, to occupy the place made vacant by the promotion of Dr. W. Joseph Hearn to emeritus professor. Dr. Stewart is also professor of surgery in the Polyclinic Hospital, out-patient surgeon to the Pennsylvania Hospital, and surgeon to the Germantown Hospital.

**Milk Licenses.**—The Department of Health and Charities is having trouble in enforcing its new milk laws. As the only means of protecting the public against impure milk, the department is insisting that all restaurants and all other distributors or sellers of milk in any way must procure licenses, according to the law imposed on all dealers of milk. Groceries, soda water fountains and restaurants will all come under the inspection of the department's employees.

**Forced to Pay for Insane Patients.**—The assistant city solicitor estimates that $3,000,000 have been lost to the state through the failure of the various counties to enforce the law requiring relatives to pay the board of insane patients in the state hospitals. Much of this money is not now collectable, as the accounts have been outlawed, but in the six years since the solicitor's office began to proceed against the delinquents, more than $200,000 has been recovered. On March 2, more than 40 delinquents appeared in Quarter Sessions court and $1,600 was collected. Many other delinquents failed to appear and for these bench warrants were issued.

**Postgraduate Course in Tuberculosis.**—A postgraduate course will be given in the clinic-room and wards of the Philadelphia Hospital on pulmonary tuberculosis, by Drs. Albert P. Francine, William G. Turnbull and Sidney J. Repplier. This course is open to graduate physicians of Pennsylvania of either sex, from May 16 to June 4. The class will meet at 2:30 p. m. daily, except Saturdays and Sundays, in the clinic-room of the hospital, where clinical conferences will be held for an hour on some phase of tuberculosis. Demonstration of the diagnostic tuberculin reactions will be made and an opportunity will be given for the class to become familiarized with the technic of these tests: The value of the *x*-ray with demonstration of plates and their interpretation will be discussed, as well as heredity, sources and routes of infection, immunity, the viability of the tubercle bacillus, its localization, the classification and types of the disease, etc. Following these daily conferences, the class will be taken into the wards and assigned cases individually for study under supervision of instructors, who will subsequently demonstrate fully the cases to them. The class will be limited to 15, applications will be considered in order of receipt, and must be made in advance to Dr. Albert P. Francine, 218 South Fifteenth street, Philadelphia.

## SOUTH CAROLINA

**State Conference for Good Health.**—At the State Conference for Public Health, held in Columbia, February 22 and 23, the chief topics discussed were the communicability, curability, and preventability of tuberculosis, the responsibility of the physician, the legal powers and responsibilities of health officials, methods of administration and financing health work, preventive medicine, malaria and its eradication, the responsibility of the people as regards public health, the hookworm disease, and typhoid fever.

**County Society Meetings.**—Laurens County Medical Society, at its annual meeting January 14, elected Dr. William D. Ferguson, Laurens, president; Dr. Thomas L. W. Bailey, Clinton, vice-president; Dr. Jesse H. Teague, Laurens, secretary; Dr. Absolom J. Christopher, Laurens, treasurer, and Dr. Theodore J. Peake, Laurens, censor.——Newberry County Medical Society, at its annual meeting, January 14, held in Newberry, elected Dr. Jacob S. Wheeler, Prosperity, president; Dr. William E. Pelham, Newberry, vice-president, and Dr. Frank D. Mower, Newberry, secretary-treasurer.——Spartanburg County Medical Society, at its annual meeting held in Spartanburg, elected the following officers: Dr. Algernon R. Fike, Spartanburg, president; Dr. William A. Smith, Glendale, vice-president; Dr. William J. Chapman, Inman, secretary; Dr. James L. Jeffries, Spartanburg, censor, and Drs. G. E. Thompson and William P. Coan, Spartanburg, delegates to the state association.——Greenville County Medical Society, at its annual meeting in Greenville, elected Dr. Ernest W. Carpenter, president; Dr. Charles O. Bates, secretary, and Dr. R. D. Smith, treasurer, all of Greenville.

## TENNESSEE

**Health Officers to Meet.**—An official call was sent out February 7, from the office of Dr. James A. Albright, Nashville, state health officer, for a meeting of city and county health officers of the state in Nashville, April 5 and 6.

**Medical Society Organized.**—Physicians of Wilson county met in Lebanon, February 5, organized the Wilson County Medical Association, and elected Dr. Thomas O. Bratton, president; Dr. Jerry J. McFarland, vice-president, and Dr. James R. Bone, secretary, all of Lebanon.

**Site for Sanatorium Donated.**—The Chattanooga City Water Company has donated to the Tuberculosis Sanatorium Association, eighty acres of land near Tyner's Station, on which a tuberculosis sanatorium for the poor of Chattanooga and Hamilton county is to be erected.

**Personal.**—At the ninth annual banquet of the Sigma Mu Chi Chapter of the Phi Chi Medical Fraternity, held in Chattanooga, February 17, a silver loving-cup was presented to Dr. Hiller P. Larimore on behalf of the fraternity.——Dr. T. A. Kearley has been elected a director of the Methodist Hospital, Nashville.

## WISCONSIN

**Society Meetings.**—At the annual meeting of the Milwaukee Physicians' Club, January 25, Dr. Fred W. Riehl was elected president; Dr. Alexander J. Heller, vice-president; A. A. Cooper, secretary, and Dr. William V. Nelson, treasurer.——Sheboygan County Medical Society, at its annual meeting, January 25, elected Dr. Emil Gunther, Sheboygan, president; Dr. Charles W. Pfeiffer, Sheboygan Falls, vice-president; Dr. William F. Zeirath, Sheboygan, secretary-treasurer; Dr. James R. Kingsley, Sheboygan, censor; Dr. Gilbert H. Stannard, Sheboygan, delegate to the state society, and Dr. Edward Felter, Plymouth, alternate.——The amalgamation of the Milwaukee Medical Society and the Milwaukee County Medical Society is practically assured. Joint conferences have been held, but formal action has not yet been taken.

## GENERAL NEWS AND COMMENT

**To Replace Fire Loss.**—A deficiency appropriation of $367,000 has been recommended to Congress by the Secretary of War, to replace the medical supplies destroyed by fire at the Army Medical Supply Depot, New York City, February 4.

**Tuberculosis Sunday.**—The National Association for the Study and Prevention of Tuberculosis has announced that April 24 has been selected as National Antituberculosis Sunday, on which day it is planned that sermons on tuberculosis will be preached in all churches in the country.

**Railway Surgeons Meet.**—The Joint Association of Surgeons of the Illinois Central, Yazoo and Mississippi Valley and Indianapolis Southern railroads held its annual meeting in New Orleans, February 23 and 24, and elected the following officers: President, Dr. John E. Owens, surgeon-in-chief of the Harriman lines, Chicago (reelected); vice-presidents, Drs. Luther Sexton, New Orleans, and Dr. Frank T. Fort, Louisville, and secretary, Dr. Thomas P. Ranney, Chicago. Memphis was chosen as the next place of meeting.——Dr. Charles B. Fry, Mattoon, Ill., the retiring secretary of the association, was presented with a mahogany hall clock by the association.

**Medical Societies to Meet.**—The Association of American Medical Colleges will hold its twentieth annual meeting at Baltimore, March 21 and 22 in the hall of the Medical and Chirurgical Faculty of Maryland, under the presidency of Dr. George H. Hoxie of the University of Kansas.——The spring meeting of the Medical Society of Missouri Valley will be held in Omaha March 17 and 18. The oration in surgery will be given by Dr. Leonard Freeman, Denver, Colo., on "Local Anesthesia," and the oration in medicine on "The Physical Basis of Mental Diseases" by Dr. Frank P. Norbury, Hospital, Ill. Dr. John E. Summers, Jr., Omaha, is secretary of the committee on arrangements.

**Death of a Philanthropist.**—James J. H. Gregory, the wealthy seed merchant of Marblehead, Mass., died Feb. 20, 1910. That this item is of special interest to the medical profession lies in the fact that Mr. Gregory is the gentleman to whom we referred on several occasions as one who was distributing the reprints of the "Great American Fraud." Since Mr. Gregory retired from business, he devoted himself to philanthropic work, and among other activities, took great interest in doing what he could against the evils of "patent medicines" and quackery. He recognized the great value of Mr. Adams' book and up to the time of his death had circulated 45,000 copies; even as late as three weeks ago he sent for 1,000 copies.

**Atlanta Antivaccinationists.**—A noble band of would-be antivaccination martyrs, who were willing and anxious to sacrifice themselves on the altar of principle and smallpox, held a meeting in Atlanta a few days ago. Their dream was rudely interrupted and their pipes put out by Dr. J. P. Kennedy, the vigilant and energetic health officer of Atlanta, who walked into the meeting-place, and catching the eye of the president of the antivaccination society, announced that he was a health officer and was there for the purpose of seeing that every one present was vaccinated. He was supported in his assault on the sacred rights of personal liberty by a number of police officers. After the martyrs had recovered from the first shock of surprise they became very indignant and the health officer was denounced in no uncertain terms. On taking a census of those present it was found that two-thirds of them were already protected by vaccination and some of them had been vaccinated only recently. Presumably these were loudest in their protests. The names and addresses of those not vaccinated were taken, and after a grand-stand play in the local courts the vaccination will be made unanimous. City Health Officer Kennedy is to be commended for his prompt action in thus forcibly calling the attention of those misguided individuals to the fact that they were not only violating the ordinances of the city, but were endangering the lives of their neighbors and friends by not being vaccinated and by attempting to influence others against vaccination.

## FOREIGN

**Deaths Abroad.**—Among recent deaths reported from Great Britain is that of Dr. Thomas Dixon Savill of London; a consultant of high repute; a nerve and skin specialist, and author of the well-known "System of Clinical Medicine," who died January 10, from skull fracture, the result of a fall from his horse in Algiers, aged 52.

**Urologic Society Founded at Bucharest.**—A new national urologic society has just been founded at Bucharest, Roumania, with Professor Herescu as the leading spirit. Professor Guyon of Paris, editor of the *Annales des Maladies des Organes Génito-urinaires*, was elected honorary president of the new society at its first meeting.

**Ramon y Cajal Made a Senator for Life.**—The king of Spain recently appointed Professor Cajal a senator of the realm for life. The prime minister in presenting the name of Cajal for this honor stated "Señor Ramon y Cajal is the greatest glory of the Spanish fatherland." One of the three editors of the *Siglo Medico*, Dr. C. M. Cortezo, is likewise a *senador vitalicio*, as also three other physicians.

**Prize for Physiologic Research.**—The academy of sciences at Bologna, Italy, announces the foundation of a biennial prize of $600 (3,000 lire) by one of its corresponding members, Prof. Elie de Cyon, with the object of promoting researches in the subjects in which he has done so much important work. Competition is open to the world, and the prize will be awarded for the best work on: 1, the functions of the heart, or cardiac and vasomotor nervous system; 2, functions of the labyrinth of the ear; or, 3, the functions of the thyroid, hypophysis and pineal gland. The prize will be awarded for the first time March 1, 1911. Address the *Segretarie della Classe di Scienze Fisiche della R. Accademia di Bologna*, Via Zanaboni, 33, Bologna, Italy.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, Feb. 26, 1910.

### Death Under Jonnesco's Method of Spinal Anesthesia

Jonnesco's method of spinal anesthesia has not yet been much used in Great Britain. A death under it has been reported, although its author claimed for it perfect safety. However, the circumstances were unfavorable. A man, aged 60, suffering from valvular disease of the heart, was operated on for strangulated hernia. Spinal anesthesia was induced by the injection of 1½ grains of stovain, dissolved in 17 minims of strychnin solution containing 1/65 of a grain, and the operation was commenced. The patient never lost consciousness, but sank under the operation. Death was attributed to the heart disease, aggravated by the shock of the operation and peritonitis.

### The Reduction of Infant Mortality from Diarrhea

The mortality of infants from diarrhea is very high, particularly among artificially-fed infants in whom it is fifteen times greater than in the breast-fed. The mortality is most marked in the manufacturing towns of the North where the demand for female labor in factories causes mothers to abandon suckling. After weaning, there is also a considerable mortality from diarrhea in consequence of improper feeding, and the insanitary conditions of the dwellings of the poor. Evidence is now accumulating that insanitary conditions, such as manure heaps, ashpits, surface soil polluted by drainage, and dirty houses, all play a part in the production of infantile diarrhea. In recent years many agencies, municipal and voluntary, have come into operation for the purpose of instructing mothers in the care of their children and thus preventing the high mortality of infants. Of these agencies, the most important has proved to be women health visitors. These began to be appointed by local health authorities about fifteen years ago, but until recently their numbers have been small. At first their work was wanting in method. They heard of a birth, visited and talked with the mother, and visited occasionally again. But as the registration of the birth of a child need not be made for six weeks, the best opportunity for advice was often lost. In 1907, the Notification of Births Act was passed. This enables a local health authority to render compulsory notification within thirty-six hours to the health officer of all births. This act has now been adopted in many towns and has rendered the work of health visitors much more effective, as they visit the mother at once. A considerable reduction in infant mortality has resulted. For infant visitation, women trained in the nursing of infants, with a knowledge of midwifery and sanitation, are employed. Their visits take the form of friendly advice rather than inspection, and thus they avoid causing hostility among the mothers, who are encouraged to talk about their families and thus enable the visitors to form an estimate of the dangers to which each baby is exposed. The visitors weigh the babies periodically and record the result on cards. One most valuable result of the visits is to raise the proportion of breast-fed infants. Under the mistaken belief that the milk of the mother is insufficient for the infant, breast-feeding is often abandoned. The value of the work may be illustrated by taking the statistics of St. Helens, a large manufacturing town. In 1901, before the system of infant visitation, the percentage of breast-fed infants was 80; in 1901, when the system was in full working it was 95.3. This reduction of the percentage of artificially-fed infants from 20 to 6.7 has been accompanied by a fall in the mortality from diarrhea in infants under 1 year from 59 to 43.2 per 1,000.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, Feb. 25, 1910.

### The Health of the French Army

In discussing the appropriations for the army, Dr. Lachaud addressed the chamber of deputies on the causes of the morbidity in the army. In the first place, he said, one reason why the German army has 50 per cent. less morbidity than the French is because they have a larger supply to draw from, one recruit out of five men, while in France the recruit is selected from only four or three men. The inspectors are thus compelled to admit men to the military service who are below the average standard. Comparing the French army with the Belgian, where conditions otherwise are much alike, he called attention to the fact that since the barracks in Belgium have had the wooden floors replaced by cement floors, permitting daily cleansing, typhoid fever, measles, mumps and scarlet fever have entirely disappeared from the barracks and they are thus totally free from epidemics. An article recently appeared in a Paris daily, signed by M. F. Masson, a member of the French academy, claiming that the barracks in France are deadly: *"On meurt dans les casernes"* was the title of the article. He arraigned the medical officers of the army as responsible in large part for the high mortality in the barracks, but Dr. Lachaud protested that the army doctors are not responsible; they have to admit men to the service they know are unfit, their advice frequently is not heeded, and their number is too small for the work. Austria has one medical officer to each 238 men, Germany one to 288, Italy one to 294, while France has only one to 421. The total French force enrolled is now 606,303 men; the total number of horses is 141,436, and the horses have one veterinary surgeon to each 264 while the men have only one physician for each 421.

### Aid for Medical Sufferers from the Flood

The Paris Society of Medicine has decided not to hold its annual banquet but to take up a special subscription for the benefit of physicians who suffered by the flood, the funds to be distributed directly by the administrative council of the society.

The executive board of the *Syndicat des médecins de la Seine* has voted to extend financial aid to physicians who have suffered from the flood, loaning money to them without interest, irrespective of whether they belong to the organization or not.

### Efforts to Influence Legislation on Medical Matters

The same organization was recently addressed by Dr. Vimont urging the members and physicians generally to confer with the candidates for the approaching elections and present to them the wishes of the medical profession in regard to legislation concerning the free choice of a physician by every citizen, the poor, the insured, the public functionaries, etc., and legislation in regard to medical expert testimony, striving to obtain pledges from the electoral candidates.

### Professional Secrecy and the Mutual Benefit Societies

The *Union des Syndicats médicaux de France* has asked the minister of labor for the annulment of a requirement in the statutes of the mutual benefit societies exacting from their physicians a statement of the exact diagnosis of the diseases of their members. The minister has replied that he has just requested the societies in question to erase all such requirements from their statutes. Certainly these societies cannot have considered the bearing of a demand in opposition to the laws governing the medical profession. It was not absolutely necessary to carry the question before the minister of labor; the physicians might have stood on their legal rights and merely have refused to comply with the conditions imposed by the benefit societies.

The *Syndicat médical* of Paris has passed a resolution (1) that the physicians of organizations (benefit societies, municipalities, public and private enterprises, etc.) should not be bound in any case to state the diagnoses of the diseases of their patients; (2) that only the following formula should be used: "morbid state entailing an incapacity for labor of so many days, justifying the payment of the insurance against disease."

### Typewriting and Chirography in Prescriptions

Dr. F. Marre recommends the use of the typewriter for prescriptions, especially long ones prescribing complex régimes and prolonged treatments. In such a prescription there are really two parts, one containing the immediate medicinal prescriptions and the other the dietary regulations. The second part, composed rather of advice than of formulas, is just that which the patient ought to be able to read and understand without a shadow of uncertainty. It might easily be typewritten at leisure from notes taken at the bedside of the patient, and would thus be complete, clear and easy to read; moreover, a duplicate, to be retained by the physician, could be easily made. Prescriptions for immediate use would continue, as in the past, to be made out by hand; but they should be always simple and short, containing not more than a paragraph as a rule. The danger of errors would thereby be much reduced.

### The Increase of Medical Fees Recognized in the Courts

The Federations of the Physicians of Paris and of the Seine a few months ago decided to increase medical fees (The Journal, Nov. 6, 1909, liii, 1576). It is interesting to note that in a case which dealt with the rates of medical fees, tried in a local court of Paris, the judge took as a basis the scale fixed by the medical societies.

### A Recent French Recipient of the Mary Kingsley Medal

The Liverpool school of tropical medicine has just awarded the Mary Kingsley medal to Dr. Raphael Blanchard, professor of parasitology and of medical natural history at the Paris college of medicine, in recognition of his services to the study of tropical medicine. Up to the present Professor Laveran has been the only French recipient of this high honor. Among the other recipients of the medal have been Lord Lister, Sir Patrick Manson, C. Finlay, D. Bruce, W. A. Haffkine, and Robert Koch.

### Death of Prof. A. Bordier

Dr. Arthur Bordier, professor of natural history at the medical school of Grenoble, has just died, aged 69.

### Honors for Medical Centenarian

Dr. J. C. Boullé of Saint-Valérian (Yonne) celebrates his hundredth birthday March 3 and the municipality is organizing imposing festivals in his honor on that date. His health is perfect.

## BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, Feb. 17, 1910.

### Personal

Professor Olshausen will resign his position as director of the first gynecologic clinic of the Berlin university at the end of the summer semester. This determination is readily understood when we remember that Olshausen is 75 years old. Various persons have repeatedly expressed their astonishment that so old a man should still continue to operate. However, Olshausen has so far enjoyed unusual vigor and so it is quite excusable that he has been slow to consent to a cessation of his activity.

Professor Windscheid died a few days ago at Leipsic, aged 48, of intestinal cancer. This man so early deceased was distinguished as an investigator and teacher of nervous diseases, especially those due to traumatism. His death will also be sincerely regretted on account of his character.

### Warning Against the Use of Raw Meat

As your readers will remember, about two years ago there occurred in the Rudolf Virchow Hospital an epidemic of meat poisoning which was referable to the use of raw ground meat. Under the authority of the department of education the scientific commission for medical affairs has taken up this matter and its report of the causes of the epidemic and the measures to be taken against it has just been published. The epidemic was due to the use of raw meat which had been infected with the bacteria of enteritis in some unexplained way and these bacteria had probably multiplied in the raw meat. Hence the commission warns against the use of raw meat and especially of raw ground meat. The supplying of raw meat as a foodstuff for institutions like hospitals and prisons is earnestly advised against. In accordance with this report the minister has required his subordinate officers to use their efforts to prevent the future use of raw meat as a foodstuff in such institutions.

### International Exposition of Hygiene in Dresden

The preparations for the international exposition of hygiene for 1911 are already in active progress. On February 12 about 200 hygienists assembled in Dresden for a conference, among whom were the representatives of most civilized nations and the presidents of the various departments and sections. According to a report of the president of the directory of the hygienic exposition, privy counsellor for commerce Lingner (better known as the manufacturer of Odol), the exposition will include five departments: historical, scientific, popular, industrial and athletic. A systematic representation of the entire science of hygiene is to be furnished by the exposition. The historical department, the supervision of which has been accepted by the medical historian, Professor Sudhoff, will exhibit the history of hygiene from the earliest antiquity to the beginning of the last century. In the athletic department all forms of sport will be exhibited. An attempt is to be made in a scientific way to show the influence of athletics on the various organs experimentally, and for this purpose a special laboratory is being established. It is to be shown in this department that excessive athletics should be opposed and how this is to be done. Athletic competitions are to be held. Six hundred prominent firms have already signified their intended representation in the industrial exposition. The kingdom of Saxony and the capital, Dresden, have appropriated $125,000 (500,000 marks) for the exposition. President Lingner has himself contributed a not inconsiderable sum.

### Collective Investigation by the Imperial Health Office on Tuberculosis from Milk

The imperial health office in Berlin has ordered a collective report on the question what danger is imminent to man from the use of milk and milk products from cows with tuberculous udders and as a result of the official reports from the various states Weber has published an interesting report in the last number of the journal, *Tuberculosis Researches from the Imperial Health Office*. From the beginning of 1905 to April, 1909, 113 cases of tuberculosis of the udder were reported to the health office; 628 persons had used the milk of these cows, mostly for a long time. In 69 cases the milk and milk products were consumed raw, altogether by 360 persons, of whom 159 were children. Of these 360, five were indubitably infected with tuberculosis through the use of the milk; among them two children between one and two years of age. In both cases the tuberculosis of the udder was very extensive. The children had taken the milk of these cows from one to one and a half years. In both cases the milk was used raw by all the members of the family, the parents and several children: all these people remained healthy. In the sick children there was merely an affection of the cervical glands in which tubercle bacilli of the typus bovinus were demonstrated by bacteriologic tests. There were no other symptoms. In addition to these positive determinations there were a number of doubtful cases reported in which there was a suspicion of a perlsucht which could not, however, be confirmed by bacteriologic investigation. In other cases the disease suspected to be tuberculosis was certainly demonstrated to be not tuberculosis. Among the 268 persons who used the boiled milk of cows with tuberculous udders, swelling of the cervical glands was found twelve times among 133 children and once among 135 adults; the number suspected of tuberculosis is relatively higher than among those who had used the milk raw. Finally Weber comes to the conclusion: The danger which threatens man through the use of milk and milk products of cows with tuberculous udders is very small compared with that which the man affected with open pulmonary tuberculosis imposes on his associates. The collective investigation of the imperial health office sustains therefore the view of Robert Koch that in the campaign against tuberculosis measures against the conveyance of the disease from man to man play the most important part.

## VIENNA LETTER

*(From Our Regular Correspondent)*

Vienna, Feb. 15, 1910.

### The Distribution of Practitioners in Austria

A report of the official statistic committee contains a few figures which well illustrate the amount of work thrown on the shoulders of the "*Amtsarzt*" (the officer of health) and explains also why the financial position of physicians in Austria is not an enviable one. There were altogether, in 1908, not more than 12,050 graduated physicians in Austria itself (without Hungary) for a population of 29 millions or one physician per 2,500 inhabitants. Nearly 70 per cent. of these held public or municipal or corporation appointments; 18 per cent. were appointed by the state, 48 per cent. by public municipal bodies, the rest by the *Krankenkassen* (sick clubs) and other corporations. The distribution in cities was far from satisfactory from the standpoint of the income of the doctor; the figures are: one doctor for 300 inhabitants in Prague, for 500 in Graz, for 600 in Vienna, for 1,000 in Trieste. In the country districts the outlook is better. The general practitioner could reckon with from 2,000 to 3,000 persons as possible patients in 30 per cent. of the districts. But in the other districts it is quite different. In 20 per cent. the figures were one doctor for from 3,000 to 6,000 persons, in 25 per cent. there were from 6,000 to 10,000 inhabitants dependent on the services of one doctor, while there were 13 per cent. of the country districts where the number of such persons was between 13,000 and 17,000. Of course such conditions make it impossible to render the services in such a manner that it would satisfy both physician and patient, especially as often this physician is also an officer of public health too, whose duties encroach on his time for private practice. The impossible conditions are the more visible if one considers the area which the doctor is expected to "serve." While in some districts there is one doctor to every half a square mile (altogether in 4 districts) in 3 per cent. there is one doctor per 2 square miles, in 28 per cent. one doctor for 6 to 10 square miles, in 25 per cent. one doctor for from 10 to 20 square miles, in 35 per cent. one doctor for from 20 to 30 square miles, and there are even districts where in an area of nearly 40 square miles, one cannot find a doctor in case of need. The explanation for such an uneven distribution of medical men is to be found in the poverty of the rural population, who cannot afford to pay the doctor in a way which would induce able men to settle down among them more densely. Very aptly Professor Fraenkel puts it that the state takes better care of the spiritual welfare of its citizens than of their health, for in every village or parish, a chapel with a priest is indispensable. Nevertheless, the number of medical students is increasing, for the prospects to obtain an appointment are better now, it must be conceded, than they were before, and the wealth of the population is also increasing, although slowly. The new sickness insurance act, which will become law in a few years' time at the utmost, will necessitate the appointment of at least 1,200 new doctors, or about 10 per cent. of the entire number of practitioners, roughly speaking.

## *Miscellany*

**The Action of Radium on the Tissues.**—The experiments of G. Guyot (*Centralbl. f. allg. Path. u. path. Anat.*, xx, 243, 1909) tend to show that the first action of radio-activity is one of stimulation of the vitality of the cells of the epidermis and of the fatty glandular tissue, which leads to a hyperplasia of these tissues. Soon, however, retrogressive processes set in. The entire process is one of acceleration of the normal cycle of cell activity in the epidermis. The normal slow replacement of the superficial cells by new cells from the germinal epithelium is greatly hastened by the stimulation of the radium rays, and there results an overproduction of cells and a consequent rapid involution in the newly formed cells. Within a short time the germinal epithelium seems to become exhausted and there follows a halt in the germination of new cells, while the rapid involution of the recently formed cells and the natural death of the more peripheral ones continue. This, as is evident, leads to a complete extermination of the epidermis. The muscular tissues seem to be particularly resistant to radio-activity. The experiments were carried out on mice. The animals were placed in a lead-lined satchel in an opening in the lid of which the metal capsule containing the radium was placed. The exposure lasted as long as forty-eight hours and the animals died from three days to seven months after exposure.

**The Problem of the House Mosquito.**—In New Jersey the work done in the salt marshes since 1904 has practically eliminated the migratory species of mosquito, says Smith (*Bull. 216, New Jersey Agricultural Exper. Station*, November, 1908), but the local breeding house mosquito still annoys to a greater or less extent, depending on favorable conditions of season and moisture. It breeds in one or two weeks in every conceivable sort of place where there is even the smallest quantity of stagnant water, and its extinction depends on constant vigilance in destroying its breeding-places. The impregnated female hibernates in cellars, garrets, cold rooms, dark and sheltered places, hollow trees, under loose bark, and even in burrows or holes in the ground. In the spring the eggs are laid on the surface of water and soon hatch. In cellars and similar inclosed places they may be killed by fumigation with phenol and camphor or by burning stramonium. All cisterns, rain-barrels, etc., should be kept covered and all pools drained and filled, or covered with oil. Even sewer catch-basins afford breeding-places for them and these should be looked after. In New Jersey water in which mosquito larvæ breed is declared by statute to be a nuisance; local boards of health are given power to abate it and their orders may be enforced against municipalities as well as individuals.

**Pneumococcus Colitis with Hyperpyrexia.**—Porter, Mummery and W. Hale White (*Proc. Royal Soc. Med.*, December, 1909) report the case of a woman aged 31 suffering from a severe diarrhea with the passage of a considerable quantity of blood. Examination with the sigmoidoscope revealed a red, spongy mucous membrane with obvious oozing of blood. A diagnosis of acute hemorrhagic colitis was made. An appendicostomy was performed and the hemorrhage stopped by astringent irrigations through the appendix. Twelve hours after the operation the temperature was 105.6 F. and ran rapidly up to 109 in spite of sponging with ice water. Continued sponging and irrigation through the appendix with cold water brought the temperature down in the course of two hours to 100, and it later fell to 95, but the next day shot up again to 107. By the above methods it was kept between 101 and 103 until the twelfth day after the hyperpyrexia when the patient died. An examination of washings from the bowel with plain water showed *Bacillus coli* and other colon organisms, and pneumococci which were isolated and grown in pure culture, and to the latter organism was attributed the colitis. The lungs remained healthy, there were no cardiac murmurs, nor evidence of pneumococcus infection in any other part of the body.

# Pharmacology

## CACTUS GRANDIFLORUS

### Report of the Council on Pharmacy and Chemistry

The Council voted that cactus grandiflorus should not be accepted for New and Nonofficial Remedies, and that a statement be prepared for The Journal giving the reasons for this action. Accordingly the following report has been adopted by the Council and its publication authorized.

W. A. Puckner, Secretary.

### *CACTUS GRANDIFLORUS*

The therapeutic value of this plant has been variously estimated by different observers. Experimental evidence as to its action is scanty and no complete chemical examination has ever been made.

Reputable men have testified that some of the plants of the cactus family contain very active principles, but so far experiments seem to prove that cactus grandiflorus has neither the action of digitalis nor that of strychnin. The principal contributions, clinical and experimental, for and against the drug, are set out below.

#### EXPERIMENTAL EVIDENCE

O. H. Myers[1] worked with a product which he calls cactina and which he regards as the active principle of the drug. (As no such substance as cactina is described in any materia medica, it is impossible to state what Myers really used.) He found that it had a strychnin-like action and raised the blood pressure.

Hatcher comes to the conclusion: "Either Myers' work was a pure fabrication or he was dealing not with cactin but with a substance similar to the pellotin of Heffter, the action of which resembles that of strychnin to a certain extent."

E. Boinet and J. Boy-Teissier[2] experimented with an aqueous extract, an alcoholic extract, and with an alkaloid which they call "cactine." They concluded from three sets of experiments on frogs that extract of cactus produces, in ten minutes, a temporary increase in the heart's action which frequently repeated doses are required to maintain; and that large doses slow the heart and produce arrhythmia.

L. E. Sayre[3] experimented with a preparation of cactus, made from the stem of the plant, by injecting it into the dorsal lymph space of the frog. There was seemingly an increase in the amplitude of the heart's action and an indication of a strengthened beat or increased force.

R. A. Hatcher[4] states that it is possible that cactus grandiflorus, under certain conditions, may contain a principle with a strychnin-like action. But Hatcher made 10 experiments on frogs, 4 on cats, 6 on dogs, 2 on rabbits, and 1 on a guinea-pig, with Cactina pillets of the Sultan Drug Company and the cactin of the Abbott Alkaloidal Company. From 1 to 15 pillets in frogs and up to 25 in dogs were used at each dose. In no single instance was there any evidence of a digitalis-like or strychnin-like action, or, in fact, of any decided action of any kind whatever.

Gordon Sharp[5] was unable to obtain either alkaloid or glucosid from the plant, but found a series of resins that caused contraction of the blood vessels of a frog. This was not a digitalis-like contraction, but depended, he believed, on simple acidity. On the heart of the frog the resins have little or no effect, comparisons being made with digitalis in the same animals. There is no proof that cactus grandiflorus itself shortens diastole, or in fact, that it has any special action on the h... ...cle at all. Sharp experimented on himself with ... an extract made with alcohol 1 to 5, but got no

Dr. Arthur ts. He thinks that the plant may have some

medical school tion.

Sayre submitted the preparation which he used in his experiments for more careful testing to E. M. Houghton, who reported that it had practically no action on the heart.

In commenting on Houghton's results, Reid Hunt said that they were confirmed by his own experiments. He did not deny, however, that the drug might have some therapeutic effect and that, in very large doses, it did affect the kidneys.

S. A. Mathews[6] found one preparation of cactus (cactin—Abbott) absolutely inert so far as any effect on the heart is concerned. He found that cactina (Sultan Drug Co.) in very large doses depressed both the circulation and respiration. In this regard it differs from strychnin, and it has no resemblance to the action of digitalis, strophanthus or any of the heart stimulants. A dose of from 10 to 12 pillets administered intravenously to a 10 to 12 kg. dog exerted little or no influence on the heart or circulation; the larger dose may cause a slight fall in blood pressure. When 70 or more pillets were administered within two and a half hours the animal generally died.

The work of Boinet and Boy-Teissier also has been criticized by Hatcher on the ground that their most positive results were obtained with an alkaloid which no one at this day is able to prepare. The results quoted in this report, however, were obtained by the use of extracts of cactus so that it does not seem that they should be entirely rejected, whatever their value may be.

#### CLINICAL EVIDENCE

Clinical observations have been more abundant than exact, and a favorable action of the drug in some organic diseases of the heart has been reported; other observers would limit its use to functional arrhythmia, insisting that it is not a substitute for digitalis or aconite, but that it occupies a place distinct from either of those remedies.

P. W. Williams[7] recommends cactus for functional heart disease, but, as a rule, found it useless in organic disease. He thinks it one of a class of remedies which act on the accelerator nerves and sympathetic ganglia, shortening the diastole and stimulating the spinal vasomotor nerve centers. Williams apparently relied on Myers for his knowledge of the pharmacologic action, and his paper is a fair example of the clinical studies of cactus.

Ellingwood[8] claims that cactus is a cardiac tonic, acting on the accelerator nerves and heart ganglia, increasing muscular force and arterial tension. He recommends it in both organic and functional diseases.

Boinet and Boy-Teissier found that therapeutic doses of forty drops of tincture of cactus were without effect on the normal heart. In patients with noisy asystole (*asystolic bruyante*) the same dose produced no appreciable effect. In the period of latent non-compensation of true cardiac patients, from 80 to 100 drops a day increased the force of the failing heart. In patients with secondary heart disease with arrhythmia of nervous origin, daily doses of 80, 100 and 120 drops of the tincture were well tolerated for weeks; they seemed to increase the fulness of the pulse and regulated its rhythm. In spite of such large doses these observers never noticed any symptoms that could be attributed to a cumulative action. It must be remembered that the precise preparation of cactus which they used is not known.

Aulde[9] recommends it as a cardiac tonic free fr... ...lative effects.

Gordon Sharp says: "The therape... think, are clear enough. Ca... included in our list of card... stomachic tonic and at most small diuretic action."

Hatcher says: "Clinical testim... between the extreme views of Gor... Ellingwood there is room for an ... concerning cactus grandiflorus."

...aen the pa... owel with plain organisms, in pure c... the coliti ...diac murm... other part

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H d. Jour., 1891, liii, 681-683.

Dr. J. C. Boulle herap., 1891, cxxi, 343-349.

hundredth birthday am., 1906, liv., 405.

M. A., Sept. 21, 1907, pp. 1021-1024.

izing imposing festiv lon, 1894, iii, 444-446.

is perfect.

6. The Journal A. M. A., Ma
7. Practitioner, London, 1891,
8. Med. Rec., New York, 190
9. Practitioner, London, xlvii,

Matthews himself took 100 granules of cactin (1/67 gr.—1 mg. each), 25 every four hours, without experiencing the least effect.

CONCLUSIONS

Reliable conclusions regarding the therapeutic use of cactus grandiflorus are rendered difficult on account of several factors.

1. It is uncertain what part of the plant contains the active principle if one exists; and its nature is unknown. The National Standard Dispensatory states that its "activity must be confined to the flower in some special stage of its development or to a certain part of it or to some parts gathered with it." This uncertainty may explain the negative results obtained by some observers but it makes the drug one that cannot be generally relied on and gives an excellent opportunity for the exploitation of proprietary preparations.

2. Some of the experimental work and much of the clinical evidence has been obtained and published under proprietary auspices. For this reason many of the therapeutic claims made for the drug must be viewed as merely the reflection of the exaggerated statements made by the advertisers of proprietary preparations.

3. The value of clinical evidence when unsupported by animal experimentation is much diminished by the tendency of enthusiastic and untrained observers to attribute to the drug given the effect really due to general remedial measures, psychic suggestion and so forth. While it must be admitted that valuable remedies may exist whose therapeutic properties cannot be revealed by animal experimentation, yet in the absence of such experimental evidence conclusions should be drawn with extreme caution.

Bearing these conditions in mind, the following statements seem to be justified: (*a*) The botanical, chemical and pharmaceutical properties of cactus are not sufficiently determined to make any available preparation a reliable remedy. (*b*) There is some evidence that cactus may be capable of affecting the animal heart and nervous system, but its action is not that ordinarily attributed to it. It does not increase the force of the heart beat. (*c*) While there is some clinical testimony as to its usefulness in functional diseases of the heart, the indications for its administration are at present too uncertain to afford a safe basis for recommending it.

4. While the drug may be deserving of further experimental and clinical investigation, this should be carried on in reliable pharmacologic laboratories and in clinics provided with facilities for exact observation.

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## HABITINA

### A "Morphin Cure" that Makes Drug Fiends

A chapter in the Great American Fraud entitled "The Scavengers" deals with those individuals who claim to cure the drug habit by mail. Mr. Adams apostrophizes them thus:

> "At the bottom of the noisome pit of charlatanry crawl the drug-habit specialists. They are the scavengers, delving amid the carrion of the fraudulent nostrum business for their profits. The human wrecks made by the opium- and cocain-laden secret 'patent medicines' come to them for cure, and are wrung dry of the last drop of blood. By comparison with these leeches of the uttermost slime, the regular 'patent medicine' faker is a pattern of righteousness. . . . They deliberately foster the most dreadful forms of slavery, for their own profit. They have discovered a money-making villainy worse than murder, for which, apparently, there is no legal penalty."

Of the "cures" themselves he says:

> "Practically all of these advertised remedies are simply the drug itself in concealed form. No effort is made to save the patient. The whole purpose is to substitute for the slavery to the drug purchased of the corner pharmacist the slavery to the same drug, disguised, purchased at a much larger price from the 'Doctor' or 'Institute' or 'Society.'"

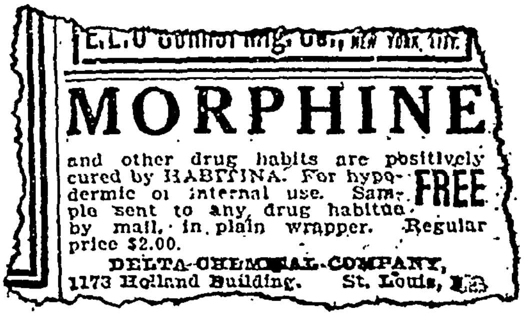
One of these vicious and dangerous "cures" is "Habitina," a nostrum advertised by the Delta Chemical Co., of St. Louis, for the "positive cure" of the "morphin and other drug habits." The Delta Chemical Company is, according to reports, practically owned by one Ryland C. Bruce, who was previously in the insurance business; the "chemical company" is said to have its preparation put up by other houses according to demand.

A few of the claims made for "Habitina" are:

> "An Antidotal, Eliminative and Supportive Compound."
> "Does not Poison the System Like Plain Morphin."
> "Gives Pleasant Stimulation and Perfect Support from First Dose."
> "A Gradual Reduction Treatment for all Pain-Alleviating and Sleep-Producing Drugs."

The advertisements state that a "free sample" of this "cure" may be had on application; and this is true. Those writing for it receive a half-ounce bottle of liquid containing eight grains of morphin sulphate and four grains of heroin hydrochlorid.

This means that under the present lax state of affairs any man, woman or child who cares to go to the trouble of writing for this stuff can, at a total expenditure of two cents, get enough morphin to kill seven or eight people. There is not a reputable drug store in the United States that would dare to give a layman eight grains of morphin on no other authority than his simple request. Yet the human vultures that carry on this body- and mind-destroying traffic in "drug cures" are permitted under our present laws—or lack of laws—to put into the hands of the ignorant or the criminal, for the mere asking, the most dangerous and treacherous of poisons.



NEW YORK CITY.

MORPHINE

and other drug habits are positively cured by HABITINA. For hypodermic or internal use. Sample sent to any drug habitué by mail, in plain wrapper. Regular price $2.00. FREE

DELTA CHEMICAL COMPANY,
1173 Holland Building. St. Louis, [illegible]

A typical advertisement of "Habitina." While it implies that free samples will be sent only to drug habitués no such discrimination is made in scattering this deadly poison.

Probably only those physicians whose work brings them in daily contact with the pitiful wrecks resulting from the misuse of narcotics can appreciate to the full the ghastly irony of the claims made by the purveyors of this poison that "Habitina is intended strictly as a treatment and *not* as a substitute." What actually occurs is well shown in the report of a case of blindness resulting from the use of this dangerous nostrum that appears on another page.[1] Here, the patient before taking "Habitina" was ingesting 6 grains of morphin daily; after taking this "morphin cure" she was taking 16 grains of morphin and 8 grains of heroin a day. A "Gradual Reduction Treatment" indeed! Another physician wrote to THE JOURNAL regarding some patients who had taken "Habitina:"

> "These patients are in worse mental condition than before; without 'Habitina' they are miserable and *cannot derive satisfaction from even twice the dose of morphin.*"

Such results may be expected when morphin habitués attempt to cure themselves with a "remedy" that is itself loaded with morphin and heroin. That poor helpless wrecks of humanity are daily being dragged down still deeper into the slough of despond by this damnable product cannot be doubted. Why can such things be? Because of the insatiable greed on the part of the few who engage in this villainous traffic, and of the intolerable negligence on the part of the many who stand idly by and make no effort to enact laws that shall stamp it out.

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[1] Stieren, E.: Blindness from Heroin in the Nostrum Habitina, p. 869, this issue.

### List of Additional Pharmacopeial Delegates

Dr. Murray Galt Motter, secretary, Washington, D. C., sends the following list of delegates to the Pharmacopeial Convention of 1910, supplementary to that in The Journal, Feb. 26, 1910. He states that it is offered for publication "without prejudice," it being understood that such publication does not of necessity mean that these delegates will be received and seated by the convention, as their credentials have not yet been passed on by the Committee on Credentials and Arrangements.

Attention is invited to a ruling of the Committee on Credentials and Arrangements, that it can "not recognize the right of any one individual to represent more than one organization or institution."

Howard University Medical College, District of Columbia.—William H. Seaman, John W. Mitchell, J. Herve Purdy; alternates, D. S. Lamb, Collins Marshall.

Howard University Pharmaceutic College.—Paul Bartsch, George N. Perry, Herbert C. Scurlock; alternates, Edgar B. Keener,

Georgia Pharmaceutical Association.—Max Morris, George D. Case, R. L. Palmer.

Southern College of Pharmacy, Atlanta.—R. C. Hood, H. Crenshaw, William B. Freeman; alternates, J. N. Brawner, G. M. Niles.

Highland Park College of Pharmacy, Des Moines, Iowa.—O. H. Longwell, S. R. Macy.

Kentucky Pharmaceutical Association.—C. Lewis Diehl, L. A. Broan, James H. Martin; alternates, James O. Cook, G. Orville Patterson.

Louisiana State Pharmaceutical Association.—Philip Asher, F. C. Godbold, Adam Wirth; alternates, J. A. Lengendre, A. O. Kaczoroski, M. T. Breslin.

New Orleans College of Pharmacy.—M. T. Breslin, C. D. Sauvinet, A. O. Kaczoroski; alternates, A. di Trapani, John E. Scott, George W. McDuff.

Maine Pharmaceutical Association.—Charles H. Davis, Frank R. Partridge, E. S. Everett; alternates, George O. Tuttle, Frank T. Crane, H. D. Pennell.

Baltimore Medical College.—William Caspari, Charles O'Donovan.

College of Physicians and Surgeons, Boston.—Ephraim Cutter, I. E. Leonard, Charles Edward Buck.

Massachusetts State Pharmaceutical Association.—Charles F. Nixon, Ernest O. Engstrom, F. A. Hubbard; alternates, L. G. Heimitz, Walter S. Doane, L. A. Lamson.

Massachusetts College of Pharmacy.—Elie H. LaPierre, Irving P. Gammon, Julian W. Baird; alternates, Herman Heinritz, C. Herbert Packard, William H. Glover.

Michigan State Pharmaceutical Association.—Leonard A. Seltzer, J. M. Francis.

University of Michigan, School of Pharmacy.—Walter H. Sawyer, J. O. Schlotterbeck, A. B. Stevens; alternates, S. Lawrence Bigelow, O. C. Johnson, E. D. Campbell.

Mississippi State Medical Association.—S. Myers, P. M. Rowland; J. A. S. Bennett.

Missouri State Medical Association.—O. A. Wall, R. T. Sloan, J. Block.

University of Missouri, School of Medicine.—W. O. Emory, H. D. Shantz, W. H. Schultz.

Washington University Medical School.—Henry M. Whelpley.

New Jersey College of Pharmacy.—Rudolph Breeves, Adolph Marquier, J. C. Gallagher; Alternates, William O. Kuebler, Albert Plaut, Philemon E. Hommell.

New Mexico Medical Society.—C. Taylor Goodman, C. G. Duncan, G. K. Angle; alternates, A. L. Breeding, F. F. Doepp, H. M. Smith.

Cornell University Medical College.—Robert A. Hatcher, Alexander Lambert, Warren Coleman.

New York College of Pharmacy.—Albert Plaut, George C. Diekman, Henry H. Rusby; alternates, Thomas F. Main, C. O. Bigelow, William Mansfield.

Jefferson Medical College of Philadelphia.—H. A. Hare, J. W. Holland, H. A. Thornton; alternates, Oscar Wilson, Leighton F. Appleman, Alfred Heineberg.

Woman's Medical College of Pennsylvania.—Arthur A. Stevens.

Temple University, Medical Department.—Horace Binney Morse, Mervyn, Ross Taylor, Earl L. McDaniel; alternates, B. B. Rogers, R. S. Dorsett, G. M. Illman.

Allegheny County Medical Society.—Thomas Turnbull, Jr. William J. McAdams, A. J. Barchfield; alternates, J. C. Burt, T. W. Grayson, A. R. Matheny.

Philadelphia College of Pharmacy, Alumni Association.—Charles H. LaWall, E. Fullerton Cook, Joseph W. England; alternates, Clement P. Lowe, W. L. Cliffe.

Rhode Island Medical Society.—William J. McCaw, Charles W. Higgins, Simeon Hunt; alternates, William E. Wilson, James F. Duffy, George W. Bailey.

South Carolina Medical Association.—C. P. Aimar, C. L. Napier.

Tennessee Pharmaceutical Association.—Richard Smith, Samuel C. Davis, J. O. Burge; alternates, R. White, F. Ward, D. Rosenthal.

Texas State Medical Association.—C. L. Milburn, S. J. Francis, W. Clarence Kluttz.

Texas Pharmaceutical Association.—J. C. Buckner, E. G. Eberle, Herman Nester.

Virginia Pharmaceutical Association.—C. B. Fleet, John E. Jackson, Gordon Blair; Alternates, H. C. Littlejohn, George T. Mankin, C. D. Fox.

# Correspondence

### An Attempt to Blackmail Physicians

[The following communication concerning an attempt to blackmail physicians is published with a two-fold purpose. Its publication will cause physicians to be on their guard against similar schemes, which may be attempted in any community, and it will serve as a caution to physicians, in view of the fact that the laity is inclined to believe that physicians sometimes recommend operations when they are not needed.—Ed.]

*To the Editor:*—There has been bad feeling between many of the physicians of Racine and the Kradwell Drug Company, the cause of which or who is at fault has no particular bearing in this case. In this letter I want to show how a blackmailing scheme, intended to be operated over a broad extent of this country was *nipped in the bud.*

March 28, 1909, a man introducing himself as James Rounds came into my office and said he feared he had appendicitis. I examined him and found his temperature normal and pulse 80. His actions were peculiar. I thought perhaps he had taken morphin for pain. I could discover no objective symptoms, but he claimed there was a marked tenderness on pressure at McBurney's point. I informed him that if he had had appendicitis, he was over the acute stage, and by going to the hospital for a few days, under close diet, he would probably get over this attack without an operation. He gave a history of repeated attacks, each of which laid him up from a week to ten days, and stated that he wished to have an operation and avoid further attacks. He informed me that on account of trouble with his wife and brother-in-law his money was tied up, but that if a letter were written explaining his condition the brother-in-law would send the money to pay for an operation. I wrote the letter. In a few days I found that three other physicians, Dr. S. C. Buchan, Dr. G. Bjorkman and Dr. L. E. Fazen had been visited by the same person and they had written similar letters, his stories varying a little, but always giving a history that indicated appendicitis.

We had all heard rumors through leaks from the Kradwell Drug Company of something that was to be done to the erring doctors. Nothing, however, was heard directly until Nov. 17, 1909, when the above mentioned doctors and myself received the following letter, with an inclosed clipping[1] from a newspaper:

Chicago, Ill., Nov. 17, 1909.

*Dr. Bjorkman, 704 Park Ave., Racine, Wis.:*

Inclosed you will find an article from the *Chicago Record Herald* of Nov. 13, 1909. This will doubtless recall to your mind, the 28th of March, 1909, when you examined one James Rounds at your office, Racine. You will no doubt remember, that three days after the examination you gave a signed statement to the effect that an immediate operation of my appendix was necessary, showing your intention of operating in case the fee was guaranteed. You may not be surprised that your opinion was contradicted within two days after your examination by several reliable physicians in Racine and Chicago. The accompanying article will show you why you was given a chance to examine Mr. Rounds. Being the principal in this case, the result of my investigation in Racine is in my possession. If you would be interested in having your statement and result of my investigation withheld from publication, you may communicate with Theodore Marrin, Private Secret Service Operator, 159 East Erie Street, Chicago.

P. S.—Theodore Marrin and James Rounds are the same man.

The letters were practically the same and were all turned over to the United States postal authorities, but were hardly deemed strong enough to convict the writer. Correspondence was carried on with Marrin and arrangements were made by me to meet him at the Great Northern Hotel. December 6, I went to the hotel as arranged, registered, and went to the room provided for me by the postoffice inspectors, who were in an adjoining room.

In about fifteen minutes Marrin came in and identified himself by the letters written to him. He told me what has since been confirmed by G. V. Kradwell on the witness stand, that he was introduced to the Kradwell Company by Clarke Helme Loomis, and engaged by them to investigate certain doctors. He further told me that there were two lists, the physicians that he was to get evidence against and the ones that were favorable to the Kradwell Drug Company, and that his instructions as to what he should tell the physicians on each list were different. The ones he was to get evidence against were Doctors Buchan, Bjorkman, Pope, Collins, Fazen, Taylor, and he thought Nott, and he said boastingly, "I got every one that I went after." Drs. DePierre, Williams, Brown and McNitt were not on the list. In fact, Loomis went to McNitt and Brown with Marrin.

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[1] Editor's Note: The article referred to is a sensational one based on an alleged interview with Dr. G. G. Burdick, Chicago, who was quoted as saying that many patients have been operated on by physicians to correct ailments, particularly appendicitis, which they never had, and that the operations sometimes consist only in an incision in the skin and no complete operation is performed. This is done, it was charged, not through a mistake in diagnosis, but for the purpose of making business.

To substantiate his statement, that his instructions were different in regard to the two lists, he showed me a letter from Loomis, reading as follows:

Racine, Wis., April 20, 1909.

*Mr. Theodore Marrin, 361 E. Ohio St., Chicago, Ill.*

Dear Sir: I am enclosing herewith letter which will introduce you to A. J. Ochsner, M.D., 710 Sedgwick St., Chicago. This is the other physician that I spoke about, and I would like you to go and have yourself examined by him as per our conversation. You need not try to mislead him by statements as to your condition, as in that case he might become suspicious and not make the examination at all—or not give me any report on same. He will send his report direct to me. The time to see him will be between four and six o'clock any day, but if you will call him up and make an appointment you will not have to wait to see him when you do call. Please attend to this as soon as possible and oblige.

Very truly yours,
CLARKE HELME LOOMIS.

Dr. DePierre was at that time (1909) doing business with the Kradwell Drug Company, but since he is not so closely associated with them. I asked Marrin why the Kradwells had not published the letters. He answered that they were afraid to do so, as they had been told by their friends that it would hurt their business.

The last day Marrin was in the employ of the Kradwells in Racine he was instructed to get T. W. Thiesen, of the Red Cross Drug Company, Kradwell's strongest competitor. He represented himself as Dr. Hanson, of Chicago, who wished to locate in Racine, became confidential, and told Mr. Thiesen of the large commissions the Kradwells had offered him, but Mr. Thiesen told him he had better stay by the Kradwells.

I asked Marrin how much he wanted to keep the matter quiet and keep it out of the papers. He wanted me to set a price, but I could not do it, so he agreed to take $600 from four of us, $150 from each, and if the money was not paid he would publish the letters in the Racine papers. If they refused to publish them he would publish them in the *Chicago American* and would distribute them thoroughly in Racine. If I paid him, he would omit my name and only publish the letters of those who did not pay him. I informed him that his telegram came after banking hours, that I only had a letter of credit on New York, which I showed, and $50 in cash, but that I could give him a check. This he did not want, so I told him I would give him $40 on account. He said he was of a very suspicious nature, and looked under the bed and in the closet before taking the money, which was marked. He folded it and put it in his pocketbook and the pocketbook in his pocket. Just then Inspector Mullen came in from the next room. Marrin tried to get rid of the money, but didn't have time. I opened the door and let Inspector Germer in from the hall. Marrin admitted writing the letters and was taken to the federal station, underwent an examination, and was brought before the grand jury the next day and promptly indicted.

His case was called for trial Dec. 19, 1909. The testimony of the physicians substantiated the statements made to me by Marrin that there were two lists. To the physicians who were not on what the district attorney designated as the blacklist, no mention of appendicitis, no symptoms of same, and no history of repeated attacks were given. It is unnecessary to say that the defense did not call Dr. Ochsner.

Dr. Lowell of Rogers Park, who also examined Marrin, was subpenaed by the defense, but on hearing the testimony in the court-room for a few minutes made the attorney understand that he would not make a good witness for the defense and was excused.

Clarke Helme Loomis on the stand said, the purpose of the investigation stated to him (Marrin) by the Kradwell Drug Company was to bring to light certain alleged practices by certain physicians and certain druggists in Racine contrary to public policy and to the detriment of the Kradwell Drug Company.

G. V. Kradwell testified that he named the doctors he wanted investigated—i. e., Drs. Bjorkman, S. C. Buchan, Fazen, Pope, Collins—and there might have been others.

In face of all this, G. V. Kradwell, in a communication to the three newspapers of this city, states that Marrin was never employed by the Kradwell Drug Company nor was he ever paid money by them, nor did he admit having employed Mr. Marrin. Mr. Kradwell further states that he is more than satisfied with the evidence he has, which was collected solely as a protection to his firm and to the people of Racine. It is unnecessary to comment on this statement.

The defendant was found guilty and sentenced to two years at Fort Leavenworth and fined $750. Judge Landis, in sentencing the prisoner said that Mr. Kradwell was in bad company. You have heard the old saying, that birds of a feather, etc.

In justice to the other druggists of this city, I will say that a number of them were approached and some even offered inducements to go into the so-called investigation, but would have nothing to do with it.

G. V. Kradwell is a member of the State Board of Pharmacy, but was not the choice of the state society.

The contemptible feature of this transaction is the procuring of a private detective without character to deceive certain reputable physicians and attempting to secure opposing opinions from others, not going to all under the same conditions, but endeavoring by this means to bring into disrepute those who had fallen under the ban of the Kradwell Drug Company. E. A. TAYLOR, M.D., Racine, Wis.

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## Omit Whisky and Brandy from the Pharmacopeia

*To the Professors of Materia Medica and Therapeutics in the Medical Colleges, and to the Medical Delegates to the Pharmacopeial Convention:*

The Department of Medical Temperance of the National Woman's Christian Temperance Union respectfully requests that you consider carefully the following arguments for the omission of whisky and brandy from the next revision of the Pharmacopeia, and requests that you use your influence to secure this:

1. The Pharmacopeia is claimed to reflect the best medical practice of the time. This department has collected statistics from hospitals all over the world, and the opinions of many of the leading physicians of this and other countries. These statistics show conclusively that the use of alcoholic liquors as medicinal agents has diminished in all hospitals and in the practice of most physicians; in fact many physicians state that they never have occasion to prescribe alcohol in any form. It seems to us that in view of these facts the retention of whisky and brandy in the U. S. P. places the medical profession in a false light. In this connection it may be noted that only two pharmacopeias recognize whisky, that of Greece and our own. If a substance which has been known so well, and for so long a time, possessed valuable medicinal properties, is it conceivable that other nations would not have included it in their pharmacopeias? The therapeutic committee of the British Medical Association has recommended the omission of brandy (the only distilled liquor in the British Pharmacopeia) from the British Pharmacopeia.

2. The retention of whisky and brandy in the Pharmacopeia deceives the public in regard to the medicinal value of these substances. One of the strongest arguments advanced by the liquor dealers and the manufacturers of "patent medicines" is that whisky and brandy, or the ingredients of the "patent medicines," are contained in the Pharmacopeia, and thus receive the sanction of the medical profession. It is difficult for the individual physician, who is advising his patient against the use of whisky and "patent medicines," to counteract the false impression thus conveyed. W. C. T. U. workers find the same difficulty in trying to teach women to avoid the self-prescription of alcoholic liquors and "patent medicines," a work which has the endorsement of all good physicians.

3. As is well-known, the whisky interests are thoroughly organized, and are using every means possible to secure the endorsement of the medical profession for the use of alcohol. There is nothing else in the Pharmacopeia which has such

vast commercial interests as whisky; it is probably more important commercially than all of the drugs in the Pharmacopeia combined, and it is certain that those interested in it will use every effort to get it endorsed by the convention. Is it not unfair, both to the medical profession and to the public, which looks to the medical profession for guidance in such matters, for a substance of such extremely limited value, if it has any, *medicinally, to occupy such a conspicuous position?* It seems to us unfortunate for the Pharmacopeia to be exploited commercially. The chairman of the present Committee of Revision has frequently spoken of the bribes (in one case amounting to $5,500) offered him if he would change certain words in the Pharmacopeia. It would be most unfortunate for the influence of physicians for any suspicion to be cast on the motives governing the attitude of the Pharmacopeia, and we believe that there is no subject in which this attitude could be more easily misunderstood and misrepresented than in the case of whisky.

There are other preparations in the U. S. P. to which we should like to direct your attention. The International Conference for the Unification of Formulas for Potent Medicaments urged that no such medicaments be made in the form of wines; this action was taken entirely for scientific reasons. Nearly all of the pharmacopeias have discontinued the use of wine as a pharmaceutical agent. The U. S. P., however, contains at least eight such wines, one of which, wine of coca, has the reputation of being used as a beverage rather than as a legitimate drug. Others of these wines are, no doubt, used for beverage purposes also. May we not urge you to use your influence in securing the omission of these preparations which are admitted to be unscientific, and which we know are a foe to temperance, and which place the medical profession in a false light, that of being on the side of the liquor-seller in the present struggle against intemperance?

Martha M. Allen, Superintendent of Medical Temperance for the World's and National W. C. T. U., Marcellus, N. Y.

### Wanted: Relief or Cure for Progressive Muscular Atrophy

*To the Editor:*—A man of means has a member of his family afflicted with progressive muscular atrophy, the diagnosis having been established with certainty after consultation with some of the highest neurologic authorities of New York City and various cities of Europe. These physicians are unanimously of the opinion that the case is incurable, inasmuch as, up to the present, there has been published no form of treatment or medication which is *positively known* to have cured or arrested the inroads of this malady.

This man wishes to spare no effort to bring relief. He believes that perhaps, somewhere, some physician may have successfully hit on some method of curing a patient with progressive muscular atrophy, but through his inability to corroborate his results, owing to rarity of cases or through modesty, or for fear of being discredited, has failed to publish a report of his case. This man's idea is to try to bring this record to the surface by making an appeal to the profession through The Journal.

The case itself presents the characteristic picture and is typical of progressive muscular atrophy in every particular. The patient is fifty years old, married, and in excellent general health. About one and one-half years ago, the disease made its appearance in the left hand, progressed, and within a few months involved the right hand. Its progress since has been very slow. The family of this patient wish to announce that any physician who supplies a complete history and detailed description of the method of treatment he may have successfully used in any case of progressive muscular atrophy, the trial of which method leads to the cure or arrest of the disease in their relative, will be rewarded by a liberal cash prize.

Requests for further particulars and replies should be addressed to

Enquirer,
Care of The Journal A. M. A.

[Comment: The above letter is from a New York physician, acting for a wealthy New York merchant, who has a sister suffering from the disease mentioned. Last December this merchant, through his physician, sent us an advertisement for insertion in The Journal. This advertisement offered a considerable reward for a cure for the disease. The advertisement was refused and reasons given. Three or four weeks afterward the merchant wrote:

"My sister is now being treated by a very reputable doctor, who has succeeded not alone in stopping the development of a similar trouble, but has placed his patients on the road to recovery. With two of these patients we had a personal interview, and therefore, we hope that the same favorable results will be accomplished with my sister."

Thus the matter ended until the receipt of the letter which we have quoted above. Whatever replies are received will go through the hands of the family physician.—Ed.]

### The von Recklinghausen Testimonial

*To the Editor:*—National committees have been formed to receive contributions from the friends and former students of Prof. F. von Recklinghausen, who three years ago retired from the professorship of pathologic anatomy which he had held with distinguished success for thirty-five years in Strassburg, where he is still working with undiminished energy and industry in completing investigations begun over ten years ago.

In conformity with his known preference, the funds contributed are to be used for a "von Recklinghausen Foundation" for educational and scientific purposes, but the determination of the precise terms and uses of the foundation is to be left to Prof. von Recklinghausen.

The opportunity is given to his American friends, admirers and students, who desire thus to honor this great teacher and master of pathologic anatomy, to send their names and contributions either to one of the undersigned members of the American committee or to the *"Aktiengesellschaft für Boden- und Kommunalkredit" in Strassburg i. Els.*, Germany. The receipt of contributions, which will close on May 1, will be duly acknowledged.

J. George Adami, Montreal; Willard Bartlett, St. Louis; F. Forchheimer, Cincinnati; G. Fütterer, Chicago; A. Jacobi, New York; W. Ophüls, San Francisco; B. Sachs, New York; James Tyson, Philadelphia; W. H. Welch, Baltimore; Francis H. Williams, Boston.

## The Public Service

### Medical Department of the Army

Changes for the week ended March 5, 1910:

Snyder, Craig R., capt., granted leave of absence for 2 months.

Oliver, Robert T. E., and S. D. S., February 24, par. 1, S. O. 288, Dec. 11, 1909, War Dept. is so amended as to assign him to duty and station at Fort Hamilton, N. Y., instead of Fort Hancock, N. J.

Pillsbury, Henry C., lieut., leave of absence extended 1 month.

Truax, Jesse P., 1st lieut., M. R. C., relieved from further duty at Fort Ward, Wash., and will proceed to his home. He is relieved from active duty in the Medical Reserve Corps, to take effect April 5, 1910. Leave of absence extended to include April 5.

Laflamme, F. L. K., dental surgeon, left Fort Sheridan, Ills., en route to Philippine Islands for duty.

Jones, Percy L., capt., granted 4 months leave of absence, to take effect on his arrival in the United States.

Huggins, John B., capt., granted 20 days' leave of absence about April 1, 1910.

Stallman, George E., dental surgeon, left Fort Logan H. Roots, Ark., en route to station at Fort Sam Houston, Tex.

Graham, George D., dental surgeon, reports for temporary duty at Fort Crook, Neb.

Maddux, Henry C., 1st lieut., M. R. C., ordered to Fort Monroe, Va., for duty.

Marietta, Shelley H., 1st lieut. M. R. C., ordered to Fort Des Moines, Iowa, for duty.

McLaughlin, William F., 1st lieut., M. R. C., ordered to Fort Hancock, N. J., for duty.

Pulver, Arthur L., 1st lieut., M. R. C., ordered to Fort Porter, N. Y., for duty.

Register, Edward C., 1st lieut., M. R. C., ordered to Fort Du Pont, Del., for duty.

Whitham, Jay D., 1st lieut., M. R. C., ordered to Plattsburg Barracks, N. Y., for duty.

### Medical Corps of the Navy

Changes for the week ended March 5, 1910:

Furlong, F. M., surgeon, orders of February 14, modified, unexpired leave revoked, ordered to duty at Naval Hospital, Boston.

Leys, J. F., surgeon, detached from duty with department of sanitation, Canal Zone.

Bell, W. H., surgeon, ordered to duty with department of sanitation, Canal Zone.

Garrison, P. E., asst.-surgeon, detached from duty under instruction at Naval Medical School, Washington, D. C., and ordered to duty at the Naval Hospital at that school.

Brown, E. M., P. A. surgeon, detached from Naval Recruiting Station, Los Angeles, Cal., and ordered to the Naval Station, Guam, M. I., via *New Orleans*.

Straeton, R. J., asst.-surgeon, detached from duty at Naval Station, Guam, M. I., and from duty on board the *Supply*, and ordered to Washington, D. C., for examination for promotion.

Munger, C. B., P. A. surgeon, detached from the Naval Station, San Francisco, and ordered to the Naval Recruiting Station, Los Angeles, Cal.

Hermesch, H. R., asst.-surgeon, detached from the *California*, and ordered to the Naval Training Station, San Francisco.

## Public Health and Marine-Hospital Service

Changes for the week ended March 2, 1910:

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from Feb. 22, 1910, on account of sickness.

Magruder, George M., surgeon, reassigned to duty at Portland, Ore., effective Feb. 23, 1910.

Cumming, Hugh S., P. A. surgeon, directed to proceed to Cape Charles Quarantine Station, Va., and assume command. Granted 7 days' leave en route to station.

Lumsden, L. L., P. A. surgeon, directed to proceed to Berkeley Springs, W. Va., on special temporary duty.

Billings, W. C., P. A. surgeon, on being relieved by Assistant Surgeon H. J. Warner, directed to proceed to Fort Stanton, N. Mex., and report to the medical officer in command for duty and assignment to quarters.

Roberts, Norman, P. A. surgeon, granted 1 day's leave of absence, Feb. 26, 1910, under Paragraph 191, Service Regulations.

Warner, H. J., asst.-surgeon, on being relieved by Passed Assistant Surgeon Hugh S. Cumming, directed to proceed to Arundel Cove, Md., and report to the Superintendent, Revenue-Cutter School of Instruction, for duty.

Kolb, Lawrence, asst.-surgeon, granted 2 days' leave in February, 1910, under Paragraph 191, Service Regulations.

Burland, B. W., acting asst.-surgeon, granted 7 days' leave of absence from March 1, 1910.

Robertson, Herman, acting asst.-surgeon, granted 6 months' leave of absence, without pay, from March 1, 1910.

Stewart, W. J. S., acting asst.-surgeon, granted 30 days' leave of absence, without pay, from Feb. 23, 1910.

Townsend, F., acting asst.-surgeon, granted 12 days' leave of absence from Feb. 23, 1910.

# *Association News*

## NEW MEMBERS

List of new members of the American Medical Association for the month of February, 1910:

### ALABAMA

Burns, W. A., Birmingham.
Farill, J. P., Farill.
Gaines, Toulmin, Mobile.
Holliday, W. H., Birmingham.
McCall, D. T., Mobile.
McClendon, H. L., Waverly.
Newburn, G. W., Pritchard.
Stallings, H. S., Troy.
Tisdale, M. L., Mt. Vernon.
Ward, H. S., Birmingham.

### ARKANSAS

Causey, G. A., Swifton.
Chaffin, C. W., Moro.
Hathcock, A. M., Harrison.
Johnston, Wm., Hardy.
McGraw, S. J., Wesson.
Nisbett, Frank, Brookland.
Osborne, J. M., Howell.
Stinson, H. C., Little Rock.
Wadley, B. L., Little Rock.

### CALIFORNIA

Berg, Adolph, San Francisco.
Lissner, H. H., Los Angeles.
Molony, M., San Francisco.
Nelson, J. E., Lodi.
Sanderson, H. E., Stockton.
Sawyer, W. A., Berkeley.
Sinclair, O. W., Eureka.

### COLORADO

Bancroft, F. W., Denver.
Denison, H. S., Denver.
Hoel, G. L., Fort Collins.
Ingraham, C. B., Denver.
Needham, C. N., Grand Junction.
O'Brien, R. L., Akron.
Pankhurst, C. T., Brush.
Van Der Schow, G. E., Fowler.
Singer, W. F., Pueblo.
Winslow, W. H., Fort Collins.

### CONNECTICUT

Beach, C. T., Hartford.
Biggs, T. J., Stamford.
Purney, John, New Britain.

### DISTRICT OF COLUMBIA

Reeves, W. P., Washington.

### FLORIDA

Douglas, J. H., Jacksonville.
Howard, N. deN., Sanford.
Julian, A. J. P., Lake City.
Renshaw, F. G., Pensacola.
Terry, C. E., Jacksonville.
Webb, DeWitt, St. Augustine.

### GEORGIA

White, A. D., Gainesville.

### IDAHO

Barrows, F. L., Moscow.
Cline, C. M., Idaho Falls.
Wilk, J. C., Moscow.

### ILLINOIS

Adams, J. F., Hazel Dell.
Allen, A. W., Robinson.
Ayling, C. H., Gridley.
Baker, R. W., Peoria.
Bath, T. W., Bloomington.
Baldwin, H. H., Joliet.
Beeson, H. B., Benld.
Bell, C. R., Peoria.
Bemisderfer, J. R., Monee.
Best, E. H., Freeport.
Blakely, J. T., Mt. Erie.
Boles, D. S., Herrin.
Boughton, T. H., Chicago.
Bourland, I. N., Equality.
Britton, J. A., Chicago.
Bundy, J. A., Iroquois.
Buxton, T. C., Decatur.
Chittum, J. D., Sorento.
Clayton, J. W., Johnston City.
Coss, W. A., Danvers.
Cromwell, J. H., Altona.
Crow, O. L., Assumption.
Davis, E. L., Peoria.
Dew, W. A., Belleville.
Dixon, W. A., Decatur.
Dudley, F. J., Decatur.
Duey, D. R., Belleville.
Floyd, T. W., Peoria.
Fuller, Erlan, Gardner.
Galley, W. W., Jr., Bloomington.
Gale, F. C., Pekin.
Gardner, W. H., Bloomington.
Garrison, F. F., Havana.
Gavin, E. F., Waukegan.
Glasford, S. T., Danvers.
Goodwin, P. B., Summum.
Gott, W. A., Washington.
Graham, S. A., Clinton.
Hasson, Edward, Peoria.
Heffernan, M. T., Decatur.
Henderson, H. C., Milford.
Hogan, J. H., Chicago.
Houston, W. W., Good Hope.
Hummeland, K., Orland.
Kelso, C. E., Champaign.
Larson, J. M., Sycamore.
Malenthal, B. L., Decatur.
Mayes, J. W. D., Illiopolis.
McClelland, C. E., Decatur.
McMahon, M., Palmyra.
Morris, R. L., Decatur.
Morrow, G. W., Anna.
Moter, R. L., Browns.
Muehlmann, C. G., Pekin.
Orner, C. T., Bloomington.
Perkins, J. B., Franklin.
Pollock, J. R., Nebo.
Reinhardt, O. F., Aviston.
Ricker, S. J., Aurora.
Roberts, J. C., Peoria.
Russell, Ben, Armington.
Sanders, J. W., Decatur.
Seippel, Clara P., Chicago.
Sloan, E. P., Bloomington.
Spannagel, W. C., E. St. Louis.
Staib, O. W., Bartlett.
Stokes, C. A., Edinburg.
Taxis, H. J., Plano.
Thomas C. R., Roodhouse.
Trewyn, W. T., Peoria.
Tweedy, W. R., Mulkeytown.
Watts, G. W., Chicago.
Wilcox, C. H., Princeville.
Yarnell, Oscar, Decatur.
Yarnell, O. B., Wenona.
Yoder, H. L., Morton.

### INDIANA

James, N. A., St. Meinrad.
Muncie, H. L., Brazil.
Myers, A. W., Monroe City.
Tubbs, G. R., West Point.
Waters, S. C., Middletown.

### IOWA

Bradley, H. M., Manchester.
Clark, H. F., Stuart.
Free, S. P., Perry.
Hoenes, A. J., Denison.
Huber, S. A., Mineola.
Husted, H. L., Muscatine.
Luehrsman, B. X., Dyersville.
Moore, E. A., Harlan.
Niblock, G. F., Derby.
Peck, J. H., Iowa City.
Potter, W. W., Kinross.
Ruth, O. J., Earlham.
Talley, L. F., Diagonal.
Williams, J. A., Belle Plaine.
Williams, J. C., What Cheer.

### KANSAS

Appleby, Clyde, Lenora.
Beckner, E. J., Selden.
Blake, C. D., Ellis.
Brown, G. H., Chanute.
Collins, D. W., Arrington.
Eagan, R. E., Springhill.
Grubbs, L. Y., Topeka.
Little, G. R., Wichita.
Moses, H. N., Salina.
O'Neil, F. E., Prescott.
Pearson, W. H., Kensington.
Stewart, R. B., Topeka.
TenBrook, A., Parsons.
Vannoy, H. E., Linwood.
Vaughn, C. K., Leavenworth.
Zane, T. M., Emporia.

### KENTUCKY.

Bone, R. L., Madisonville.
Charlton, C. C., Wingo.
Fallis, W. E., Louisville.
Johnson, W. G., Murray.
Lewis, J. C., Lexington.
McCord, H. E., Ludlow.
McRee, A. V., Murray.
Rice, D. B., Denver.

### LOUISIANA

d'Aquin, J. J., New Orleans.
Elliot, J. M., New Orleans.
Tudury, R. A. New Orleans.

### MARYLAND

Conrad, T. K., Chevy Chase.
Geatty, J. S., New Windsor.
Hurdon, Elizabeth, Baltimore.
Lumpkin, R. G. L., Baltimore.
McCormick, G. C., Sparrow Point.
White, J. M., Crapo.

### MASSACHUSETTS

Ameno, J. L., Quincy.
Blanchard, W. S., Boston.
Brady, J. E., Brockton.
Call, Emma L., Boston.
Devenny, J. H., Dorchester.
Drake, R. A., New Medford.
Fenwick, G. B., Chelsea.
Morse, Irene May, Clinton.
Schmidt, F. S., Roxbury.
Stewart, R. C., Lowell.

### MICHIGAN

Aurin, E. C., Cedar Springs.
Barnes, J. W., Prattville.
Campbell, J. D., Grand Rapids.
Gibson, F. J., Jackson.
Winslow, R. C., Saulte Ste. Marie.
Karraker, C. W., Detroit.

### MINNESOTA

McBroom, D. E., Elysian.
Murray, D. D., Duluth.
Thimsen, N. C., Hayfield.
Tyrrell, C. C., Minneapolis.

### MISSOURI

Belden, W. E., Columbia.
Benson, B. G., St. Louis.
Brown, J. E., Florida.
Bruton, T. S., Seymour.
Chilton, J. A., Van Buren.
DeVilbiss, Frank, Eugene.
Dixon, J. C. B., West Plains.
Downing, B. R., Farmington.
Drew, F. W., Ethel.
Einbeck, W. F., New Haven.
Hochdoerfer, D. F., St. Louis.
Huggins, U. L., Frisco.
Kelley, I. D., Jr., St. Louis.
Maisch, A. F., Manchester.
Mardorf, W. C., St. Louis.
McGann, P. J., St. Louis.
Miehle, T. A., Cooter.
Mitchell, G. B., Forsyth.
Nunn, J. C., Novinger.
Owens, I. M., Beaufort.
Owens, J. H., Sweet Springs.
Pollman, W. H., St. Louis.
Rabenau, W. J., Fordland.
Rodman, W. W., Pierce City.
Ross, Mary S., Hannibal.
Schisler, Edwin, St. Louis.
Shafer, F. M., Edgerton.
Steele, A. J., St. Louis.
Stevenson, F. S., Aurora.
Taulbee, J. B., Joplin.
Thierry, C. W., St. Louis.
Welch, J. C., Salem.
Westbrook, G. W., St. Louis.

### MISSISSIPPI

Adkins, G. E., Louise.
Duke, B. F., Scranton.
Turner, T. F., Salles.

### NEBRASKA

Brenn, C. P., Western.
Byrnes, M. R., Crete.
Douglas, W. J., Atkinson.
Gorder, J. W., Weston.
Penner, H. G., Plymouth.
Sturdevant, C. L., Atkinson.

### NEW JERSEY

Fyfe, G. D., Jersey City.
Gruessner, Anthony, New Brunswick.
Hart, E. P., Jersey City.
Keller, S. C., Newark.
Spence, Henry, Jersey City.

### NEW MEXICO

Garmany, J. F., Portales.

### NEW YORK

Andrews, C. H., Buffalo.
Bookman, M. R., New York City.
Chapman, S. U., New York City.
Cherry, T. H., New York City.
Dean, W. I., Lyons.
Finley, H. L., Brooklyn.
Jankovski, A. S., Brooklyn.
Mason, F. S., New York City.
Riesenfeld, E. A., New York City.
Schapiro, Jos., New York City.
Weingarten, F. S., New York City.
Wilson, H. H., Stockbridge.

### NORTH CAROLINA

Bolton, Mablou, Rich Square.

NORTH DAKOTA

Aaker, A. O., Velva.
Blanchard, H. B., Columbus.
Blatherwick, W. E., Drake.
Cain, W. T., Underwood.
Strong, T. J., Enderlin.

OHIO

Rind, R. C., Springfield.

OKLAHOMA

Beasley, A., Hobart.
Buchanan, M. W., Watonga.
Colley, K. L., Bigheart.
Edwards, F. M., Fairland.
Fowler, Wm., Alderson.
Haynie, W. D., Powell.
Iles, H. C., Prague.
Lewis, E. F., Kingston.
Lowery, Allen, Blackwell.
McDonald, J. G., Okfuskee.
Rentfro, J. F., Sapulpa.
Stone, S. M., Edmond.
White, L. C., Adair.

PENNSYLVANIA

Blough, H. K., Elizabethtown.
Griscom, J. M., Philadelphia.
Kemper, C. A. S., Bethlehem.
Pollock, G. W., Wilkinsburg.
Potteiger, G. F., Hamburg.

SOUTH DAKOTA

Abbott, G. A., Watertown.
Hart, R. S., Hazel.

TENNESSEE

Brock, R. A., Sweetwater.
Linn, H. P., Palmyra.
Miller, R. C., Evansville.
Padgett, Hazle, Nashville.
Stephenson, C. V., Centreville.

TEXAS

Von Brunow, V. E., Pampa.
Dawson, I. J., Marble Falls.
Edgar, T. O., Gainesville.
Evans, Rebecca M., Denton.
Grant, S. H., Deport.
Long, R. L., Atlanta.
Mayo, S. L., Belton.
Smith, C. Z., Anna.

UTAH

Nielson, A. J., Ephraim.

VIRGINIA

Miller, E. R., Harrisonburg.

WASHINGTON

Ghiglione, Aug., Seattle.
Monzingo, A. S., So. Tacoma.

WEST VIRGINIA

Glass, E. F., Wheeling.
Waldron, T. C., Coalwood.

WISCONSIN

Berger, A. J., Johnson Creek.
Cooke, J. M., Darlington.
Donnell, J. E., Cuba City.
Elliott, E. S., Fox Lake.
Fiedler, Otho, Athens.
Hamlin, F. J., Beloit.
Hayward, J. C., Marshfield.
Hoffmann, M. A. T., Campbellsport.
Kleinschmidt, George, Milwaukee.
Morrison, Morris, Cashton.
Rodermund, A. M., Athens.
Sperry, S. B., Milwaukee.
Vorpahl, R. A., Elkhorn.

## Society Proceedings

### COMING MEETINGS

Alabama, Medical Association of State of, Mobile, April 19-22.
Am. Laryn., Rhin. and Otol. Society, Washington, D. C., April 28-30.
Arizona, Medical Association of, Phoenix, April 20-21.
California, Medical Society of State of, Sacramento, April 19-21.
Conf. State and Prov. Bds. of Health, Washington, April 28-29.
District of Columbia, Medical Association of, Washington, April 26.
Florida, Medical Association of, Jacksonville, April 6-8.
Georgia, Medical Association of, Athens, April 20-23.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 26-28.
Missouri Valley, Medical Society of, Omaha, March 17-18.
Mississippi State Medical Association, Oxford, April 12.
South Carolina Medical Association, Laurens, April 19-21.
Tennessee State Medical Association, Memphis, April 12-14.

## CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION AND OF THE COMMITTEE ON MEDICAL LEGISLATION OF THE AMERICAN MEDICAL ASSOCIATION

*Held in Chicago, Feb. 28—March 2, 1910*

*(Monday Morning Session, Continued from page 814)*

### Report of the Special Committee on Practical Tests at State License Examinations

DR. W. S. FULLERTON, St. Paul: The members of your Committee on Practical Examinations begs to report: After about a year's trial in their respective states they find the practical examination on certain subjects in the curriculum for state licensure eminently satisfactory. The state boards which have adopted it began in a tentative way, but experience leads the committee to believe that it is capable of considerable extension and development and worthy of universal adoption by state examining boards. The committee believes that the practical examination, more than any one thing, compels the candidate for license to come before the board with real knowledge in the subjects to which it is applied, obtained by well-directed work. and that it effectually does away with the "quiz-compend applicant" superficially and specially crammed to meet the ordinary written examination.

Your committee recommends that state examining boards shall require practical examination in the following subjects: diagnosis, pathology, histology, bacteriology, urinalysis, obstetrics and anatomy. While this may sound formidable the committee is convinced that it is feasible. For example, on the basis of 100 applicants a physical diagnosis examination can be completed in 5 hours by providing 10 subjects, taking the class in relays of 10, each to examine one case and to be allowed half an hour for such examination. The practical in anatomy can be carried on concomitantly, each relay passing from one to the other. The committee recommends that the present written examination in anatomy (which is necessarily book anatomy) be dispensed with, and a practical examination consisting of a description of prepared specimens be substituted, believing that one such specimen correctly described is of more value as a test of anatomic knowledge than ten answers which may involve only the question of memorizing from a quiz compend. The committee also recommends that the practical examination in histology, pathology and bacteriology shall consist in the identification of a sufficient number of microscopic slides and gross specimens. The committee further recommends that there shall be a practical chemical and microscopic examination of one or more specimens of urine.

### Practical Examinations in Ohio

DR. GEORGE H. MATSON, Columbus, Ohio: In a supplementary statement Dr. Matson, a member of the committee, called attention to the results of practical examinations which were inaugurated by the Ohio board in June, 1908. Since that time applicants' grades in the laboratory branches show a marked improvement over the grades given before such tests were adopted. There is reason to believe that the improvement was due directly to the added requirement and that in future examinations this improvement will be more pronounced.

What has been accomplished by the laboratory tests can be duplicated by practical examinations in other branches. The examination, in addition, of blood, sputum, feces and stomach contents is also suggested. Examination in clinical medicine may be inaugurated by presenting cases of readily recognized heart and lung lesions, enlarged liver and spleen in satisfactory subjects, syphiloderms and easily recognized skin diseases. In anatomy, the applicant may be asked to indicate and name points of interest on a given bone, to outline the various organs in the living subjects, and to locate points of interest that may be required of him. As these examinations progress, the cadaver may be used and minor surgery added to the list of practical subjects.

In obstetrics, the manikin may be used and it is suggested that the applicant be required to demonstrate and diagnose positions and to demonstrate the treatment of abnormal position. He should also be required to demonstrate the use of the pelvimeter. If the time permits, practical work in refraction may also be added. Omitting refraction, the entire examination here suggested need not extend longer than one and a half hours. Six examiners could examine seventy-two applicants in six hours. Proctors rather than examiners are needed to conduct the written work. The details of such an examination could easily be arranged.

There is a spirit of unrest among the laboratory members of the various faculties that will not be satisfied until practical tests have been given a fair and impartial trial at the hands of examining boards. Students who contemplate such examinations will govern themselves accordingly, and medical colleges doubtless will improve the character of their work to meet the demands for it. A sentiment in favor of practical tests prevails and the efforts in this direction deserve further recognition. It is also my opinion that position on medical boards will be more dignified and the influence of the board greatly increased by the addition of these practical tests.

### Discussion on Practical Examinations

DR. S. D. VAN METER, Denver, Colo., a member of the committee, opened the discussion as follows:

I heartily agree with the results of practical examinations as given by Dr. Matson. There is no state examining board in the country that cannot conduct a practical examination in urinalysis, pathology, anatomy and diagnosis. In conducting practical examinations in these branches, however, I can see how many boards will have difficulty in carrying them out along the lines indicated by Dr. Matson. It does not take long for the experienced examiner to tell whether an applicant for licensure can tell the difference between the abnormal and the normal. For these practical examinations the Colorado board has used a well-developed man and the applicant is expected to point out the anatomic landmarks on him. In anatomy we have used the stereopticon after the manner of Cunningham and have found it very useful. I think the time is coming when surgery and all other specialties will require a supplementary license in this country.

DR. W. J. MEANS, Columbus, Ohio: Practical examinations have been a hobby of mine for many years. A written examination simply requires a censor who sees that each applicant is doing the fair thing. This does not require of the applicant any particular skill but a practical examination brings out his ability.

DR. JAMES R. GUTHRIE, Dubuque, Iowa: These reports indicate gradual evolution and development of proper scientific examinations of our students, and no fact is more potent in the increase and development of that system than the requirement of special examinations for licensure for the practice of specialties, and if the Council on Medical Education voices to the profession of this country its decision or conclusion based on this principle it will have done the cause of general medical education and the people at large a service which will be lasting and will benefit the whole domain of education.

DR. EDWIN J. BARTLETT, Hanover, N. H.: I do not know what the teacher of anatomy is to do during the mixed periods when some examining boards are insisting on a verbal examination while the more enlightened boards are insisting on practical examinations, because we cannot prepare men for both examinations at the same time.

DR. E. J. WILSON, Columbus, Ohio: I feel that the field of practical examinations ought to be enlarged, and there is no reason why it should not cover the field of diagnosis because the criticism that has been made of our state examinations all over the country is that they have been too academic, or mere tests of memory. These examinations should be as practical as possible.

DR. C. P. FALL, Nebraska: We have adopted the practical method of examination for licensure in Nebraska, and this examination includes urinalysis, pathology, physical diagnosis and bacteriology. We have also adopted a practical test in refraction.

DR. B. D. HARISON, Detroit, Mich.: If the system of having practical examinations could be carried out it would overcome many objections now raised to the state license examination.

DR. F. C. TODD, Minnesota, a member of the Council on Medical Education's subcommittee of ten appointed a year ago on diseases of the eye, ear, nose and throat, said that in considering subjects which should be taught in ophthalmology the committee decided unanimously that refraction work should not be taught, because they were educating men to become general practitioners.

DR. GEORGE W. WEBSTER, Chicago: While I would welcome as heartily as any one anything that would enable us to make an adequate, fair and reasonable test of an applicant's fitness to practice medicine, still I think we have not arrived at the entire solution of that by adding the so-called practical test to the examinations.

DR. EDWARD T. ABRAM, Dollar Bay, Mich.: I believe that there are some examinations which can be conducted in a practical way, but this cannot be done by four or five men. Practical examinations should be conducted by examiners who are well versed in the particular branches or studies on which applicants are to be examined.

DR. H. D. ARNOLD, Boston: The Massachusetts Medical Society has decided that an applicant should pass a written examination first before being eligible for a practical examination.

## MONDAY AFTERNOON SESSION

### Discussion on the Addresses of Mr. Brown, President Pritchett, President Schurman and Dr. Vaughan

[As stated in THE JOURNAL, March 5, page 814, these addresses will be published in the Original Articles Department of THE JOURNAL later.]

MR. GEORGE E. MACLEAN, President of the University of Iowa: Education has come to be recognized by the professions as one of the great social movements of the age; education has made as much progress in its ideals, in its methods, and in its accomplishments as has been made by inventions in the industrial and commercial worlds, and to-day is the day of the coordination of these great movements. That the medical profession, so ancient, so honorable and so sacred, should recognize the educator, the despised and underpaid teacher, is one of the most significant features of promise for the future of medicine and of medical education. No longer can we hope for anything that is segregated, that is, without thorough cooperation, to give results in education or in medicine. The central thought of a university is research or investigation. Universities are experiment stations for truth, for the discovery of new truths, and the new applications of principles, and medicine is the application of science. A college of medicine is as much a college of applied science as is a college of engineering; therefore, the medical college must be in a university. It cannot be affiliated at arm's length. It cannot be a bifurcated institution. It must be an integral part of the university.

DR. CYRUS NORTHROP, President of the University of Minnesota: Medical education is an exceedingly important subject. Nothing is more essential to the welfare of the human family in the way of education than is medical education. If a member of my family has typhoid fever I want a physician of clean character, a man of high principles and purpose, a man of knowledge and skill. Knowledge and skill are not the same thing. A boy may study in the laboratories of a university year in and year out; he may understand chemistry, and botany, and all the other ologies, and still lack a certain something that comes pretty near being classified under the head of common sense, and not be able to apply this to any particular case. He may understand chemistry and biology and everything else, and then designate a case of summer heat as measles or something of that kind. I do not want such a doctor as that and you do not. We want a physician who knows better than that. The first years of the medical course should be taught by men who are scientific men, devoting their whole time to the work, whether it be bacteriology, embryology, histology or anatomy. They ought to be men who are teachers of these sciences. When it comes to the clinical side, what objection is there to a man teaching who is engaged in the practice of medicine? I see no objection to it. The practicing surgeon can more successfully teach surgery than one who has only a theoretical knowledge of the subject. The same holds true with regard to the teaching of other branches.

DR. B. F. TURNER, Memphis, Tenn.: Inspired by the remarks in each of the addresses we have listened to, the inference has been drawn that the majority of the existing medical colleges should die. I ask: Which ones shall die? The answer to that question is involved in the evolution of the colleges that exist. If we go back forty years in the history of America we find a great country without regulation concerning the practice of medicine and we find on the part of a devoted few an honest effort to elevate professional standards by the process of education and organization; and, therefore, I take it, the cause for the existence of more than one institution is not that it was organized as a money-making institution, but by an effort on the part of some one to develop a higher ideal and to elevate a noble profession. Certainly that is true in certain sections of our country where educational advantages have been notably deficient. These institutions are asked to-day to get out of the way, and told that there is no need for them. Who will determine which shall cease to exist? The answer is, those shall become extinct who do not conform to standards of a certain altitude. Some medical schools have expended hundreds of thousands of dollars for equipment and for teaching purposes, and some of these could only reach high ideals by degrees.

DR. A. D. BEVAN, Chicago: There is no section of the country in which to-day the educational problem is being so thoroughly thought out as it is in the South, and it is not going to be many years before the South will have first-class four-year medical schools which will come to the front. We know what splendid work Southern medical men have done and are doing and we are proud of the South, and so far as the Council is concerned I am sure their ideas are helpful in every way and if any of the schools that have been criticized desire to have a detailed statement of the criticism, I am sure the members of the Council will furnish it to them. However, we want the Council to be helpful, and we shall attempt to make it of service in every way.

## TUESDAY MORNING SESSION

### Report of the Committee on Organization of a State Board of Medical Examination and License

DR. W. H. SAWYER, Michigan, chairman, read the report of this committee:

Should there be a separate board of medical examiners or should the state board of health also have examining and licensing powers? Without question, there should be a separate board of medical examiners. Several states have tried the combined board of health and medical examination, but have, after experience, separated them, and those states in which the two boards are already combined are endeavoring to have the division made.

Should the examining board be single or multiple? Single. Most of those states which have tried the multiple board have changed to the single board.

Should the examining board be sectarian or non-sectarian? A non-sectarian board by all means, if possible. However, under existing circumstances it does not seem practicable or possible of accomplishment. In 19 states the law provides for a mixed or sectarian board. Of 17 states in which the law is silent as to sect, 14 reported through the secretary of the board, 7 advocating a mixed board, 3 a non-sectarian board, and from 4 there was no expression.

Should the examining board be appointed by (a) the governor; (b) the governor on nomination of the state society, and (c) the state society? By the governor on nomination of the state society. Any other attempted method at this time would more than neutralize the good effect of the medical board on the profession and people at large.

Should the secretary be a member or an employee of the board? When possible he should be a member of the board, but not necessarily so.

Should the examining board be a part of the state university, or should it be entirely distinct from all educational institutions? It should be entirely distinct from all state educational institutions. This applies to every state in the union except New York, where the University of the State of New York is a corporate institution, executive in its character and non-teaching.

In connection with the report of Dr. Sawyer, Dr. W. Jarvis Barlow, California, presented some statistics from that state which gave a general idea of the fitness of such schools to educate students in medicine.

#### DISCUSSION

DR. EDWIN J. BARTLETT, Hanover, N. H.: How are competent examiners to be secured on the laboratory branches, such as chemistry, physiology, bacteriology, biology, which are advancing so rapidly, if examining boards are to be made up of men outside of colleges and universities? Practitioners of medicine are unfit to examine in these branches.

DR. W. H. SAWYER: The members of faculties of colleges or universities should not be members of examining boards, but provisions should be made whereby the laboratory work may be done by men outside of the board itself.

DR. E. J. WILSON, Columbus, O.: Is it not true that state boards have the authority to make such provisions?

DR. SAWYER replied to this in the affirmative.

DR. WILLIS G. MCDONALD, Albany, N. Y.: Formerly in the New York law there was a clause which prohibited the appointment of members of faculties of medical colleges on boards of examiners, but in the new law which was passed this clause was wisely left out. In the purely scientific division of medicine it is difficult to select a suitable examiner in pathology, bacteriology and bio-chemistry. For instance, an examiner in anatomy without a great deal of experience in teaching would find it extremely difficult to frame suitable questions.

DR. W. S. NAY, Vermont: The proper examiner should be the bedside practitioner. If he is not qualified to examine students who come before him I do not know who is.

DR. H. W. BRIGGS, Delaware: In 1907 an act was secured in Delaware regulating the practice of osteopathy, requiring osteopaths to come before one of the boards of the state or before the Medical Council with the selection of one osteopath, and since that time no osteopath has applied to the state for license to practice.

DR. L. B. MCBRAYER, Asheville, N. C.: I do not think that members of faculties of medical colleges should be on the board of examiners.

DR. E. J. WILSON, Columbus, Ohio: I believe that the members of examining boards should not be on the faculties of medical colleges.

DR. C. P. FALL, Nebraska: The consensus of opinion among the profession in Nebraska is that professors in medical colleges should not be members of the state board, although there is a professor on the state board at present.

DR. EDWIN F. BARTLETT, Hanover, N. H.: I have looked over the papers of many states and find that some examiners set questions that can be answered by yes or no. In my opinion, no competent examiner would do that.

The subject was further discussed by DR. GEORGE W. WEBSTER, Chicago, and the discussion closed by DRS. SAWYER and BARLOW.

### Report of the Committee on Qualifications of Applicants

DR. S. D. VAN METER, Denver, chairman of the committee, presented this report:

It is unquestionably desirable that all applicants for license to practice medicine should be required to furnish proof of having received preliminary and collegiate education equal to that standard recommended by the Council on Medical Education. The members of the committee feel that all boards cannot afford to adopt these requirements for all applicants. Nothing can be said against its adoption for those making application for license on credentials, but to deny those wishing to make application by examination the right so to do raises a very serious question. The committee believes that only the fundamental branches should be included in the list of subjects for examination and that all questions on materia medica and therapeutics should be excluded. It is not advisable for the state to encourage sectarianism in medicine and it has no more right to recognize a school of medicine than one of theology. Examinations, in the opinion of the committee, should be oral, clinical and written. They should be practical and designed to furnish the examining board with adequate information on which to determine the educational and moral qualifications of those examined. The committee believes that examining boards should have the authority to determine the good standing of colleges. They should arrive at their conclusions by an unbiased review of all obtainable data, but owing to the cost and physical impossibility of making personal investigations of colleges at a distance, boards must of necessity at present reply chiefly on the reports of the Council on Medical Education and the Carnegie foundation for the Advancement of Teaching.

### Vote on Examining Boards

The Conference took a vote on the following questions:

1. Should there be a separate examining board distinct from the board of health? A large majority voted in the affirmative.

2. Should there by only one examining board for all sects? Forty-three votes were cast in the affirmative, and four in the negative.

3. Should sectarianism be recognized on the board (osteopaths not included)? Thirty-nine votes were cast in the affirmative, and seventeen in the negative.

4. Should teachers in medical colleges be on the board? This question was answered by a very large negative vote.

5. Should graduation from a reputable medical college be a requirement for license? Affirmative vote, forty-nine; negative, three.

As to whether examinations should be oral or written, this matter was left to the various boards with the recommendation that examinations be made as practical as possible.

The question of whether or not state examining boards should determine the standing of colleges, as to whether they are reputable or not, was carried unanimously by an affirmative vote.

There were forty-two affirmative votes cast in favor of examinations in materia medica and therapeutics, with four opposed.

### Report of the Committee on the Definition of the Practice of Medicine

Dr. L. M. Halsey, New Jersey, a member of this committee, stated that owing to the absence of the chairman, and failure to send his report, the committee was not able to present to the conference a very full report.

He presented the following:

1. Should a specific definition of the practice of medicine be included in the model act? Yes, in the judgment of the members of the committee present, a specific definition should be incorporated.

2. If so, what is the ideal form of such a definition? A person practices medicine and surgery within the meaning of this act, who holds himself or herself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity, physical or abnormal mental conditions, and who shall either offer or undertake by any means or methods to diagnose, treat, operate, or prescribe for any human disease, pain, injury, deformity, abnormal, mental or physical conditions.

3. Should limited practice, as midwifery, massage, optometry, osteopathy, mental healing, Christian science, mechanotherapy, neurotherapy, etc., be defined and provided for in the model practice act? No.

The committee suggested the elimination of midwifery, which should be under a special act requiring midwives to present a diploma from a reputable college of midwifery, and to pass a satisfactory examination before the board of medical examiners. The other practices should be regulated by a special act which shall specifically define their necessary qualifications and requiring applicants for license to pass a satisfactory examination before the state board of medical examiners.

### Provision for Educational Standards in a Model Medical Practice Act

Dr. N. P. Colwell, secretary of the Council on Medical Education, Chicago: No practice act can be considered a model which does not provide for a single board of medical examiners, or a single authority for the enforcement of its requirements. Nor can it well be considered a model unless it provides that the members of this board are to be selected because of their special qualifications for the duties involved, rather than for political or other reasons. Unless these two points are safeguarded any provision for educational standards will be of limited value. With our form of government, a single board of capable medical examiners is the best and only legal barrier which can be placed between a suffering humanity and the hoards of would-be practitioners being turned out annually from the one hundred and sixty or more medical institutions in this country, many of which adhere to no definite standards, and have little or no facilities for the satisfactory training of medical practitioners. Taking it for granted that a single board of able medical examiners is provided for by the practice act, then the simplest wording of the clause, providing for educational standards is the best. A model practice act should not attempt to define educational standards nor what should constitute a medical college in good standing because standards are rapidly changing.

The requirements of graduation from a reputable medical college, as shall be determined by the board, affords a double assurance that all applicants granted licenses are well qualified to practice medicine. First, a medical college which the board knows is reputable has certified to the applicant's fitness to practice medicine by having granted him its diploma; and, second, the state board has subjected the applicant to its examination, which must have been satisfactorily passed before the license is granted. In the protection of a sick and suffering but credulous humanity from the crowds of ignorant and untrained would be practitioners could a model practice act provide for less than this?

### Report of the Committee on Reciprocity and Registration

Dr. Charles H. Cook, Massachusetts, read the report of this committee:

1. What provision for reciprocity should be included in a model practice act? 2. Should reciprocity be based on mutual recognition or on a standard adopted by the board of the state from which the applicant comes?

The committee considered these two questions together. All medical legislation is embraced under what is called the police power and has to do with the protection and benefit of the public. Legislation relating to reciprocity should have for its object the public welfare, else such legislation cannot be justified. To justify a law establishing reciprocity between states it must be made clear that it would result in better protection to the inhabitants of the respective states.

For what purpose are the various state boards of registration established? To protect the inhabitants of the respective states from unqualified physicians.

Can the duty and the responsibility of thus protecting the inhabitants of any state be delegated to the examining boards of other states? There can be but one answer to this and that is that each state board is the only board to pass on the merits of applicants for registration in its state and such powers cannot constitutionally be delegated to anyone else.

The committee could not recommend any law providing for general reciprocity. The suggestion was made instead that each state board be given authority to pass on the merits of each physician applying from another state, and whenever his credentials, affidavits and general qualifications would warrant such action that he be registered without full examination.

What provisions for the registration of licentiates should a model law contain, and should any provision be made for county registration? If so, before what officers? As the purpose of registration is the establishment of a legal record accessible to the people whom it is intended to protect, the records should be sufficiently convenient to permit of prompt reference. The entry of registration should not only be with the state board, but with and before the local registrar of legal records, whether it be county, town or district or other subdivision of the state existing. Also a record of registered names of the whole state should be accessible in each subdivision of records to permit of knowledge of the standing of any licentiate who may come from a neighboring or a distant county in the state.

How can the registration system of state boards be made more effective and of more practical value? This question is defective in the judgment of the members of the committee in that it implies that the system employed by the various state boards throughout the country is the same. This is not true at the present time. In all the states, prior to three years ago examinations were conducted wholly in writing. This system still prevails in a majority of the states and must continue to prevail in them until their laws are so modified as to give the boards larger discretionary powers.

### Report of the Committee on Revocation of License and Penalties

In the absence of the chairman of this committee, Dr. E. L. Stevens, Iowa, the report was presented by Dr. B. R. McClellan, Ohio:

1. Should the state licensing board have power to revoke a license; if so on what ground? Yes, subject to an appeal by the defendant to the district court.

2. Should such revocation by the state board be subject to the review of the courts; if so, should this include only a review of the proceedings of the board, or should the review include the questions at issue and the evidence introduced? Yes, on appeal, in which case the courts should review the proceedings of the board and consider the merits and all the questions at issue in the case, with the thought of justice to all concerned and the further thought of protection of the public.

3. Should a model medical practice act impose a penalty for obtaining money from patients through false representation, as well as for practicing medicine without a license? Yes, the medical practice act should impose a penalty for obtaining money from patients through false representation. Such penalties, if possible, should require restitution as well as fines and imprisonment. Such penalty should be as severe, more severe than frauds, in banking or insurance.

4. What should be the penalty for practicing medicine without a license? Should it be fine, imprisonment, or both? Both fine and imprisonment.

5. What should be the penalty for falsely representing one's self to be a legally qualified physician? If this question be interpreted as implying that the one thus falsely representing himself also attempts to practice under such misrepresentation, he should be subjected as suggested in the answer to question three.

6. Should revocation of license be temporary or permanent? Either permanent or temporary, pending on the evidence and public welfare.

7. Should unprofessional conduct or criminal abortion be considered a justifiable cause for the revocation of a license? Yes.

8. What other causes should justify revocation of license? Perjury while on the stand as expert witness.

9. What penalty should be imposed on limited practitioners who exceed their functions? The same penalties as those for practicing without any kind of a license.

(*To be continued*)

## PHILADELPHIA COUNTY MEDICAL SOCIETY

*Meeting held Feb. 9, 1910*

The President, Dr. Henry Leffmann, in the Chair

## INFANTILE SCURVY

### The Cause and Symptoms of the Various Phases of the Disease

**Dr. J. P. Crozer-Griffith**: No disease is so easy to recognize or is so often mistaken by physicians as infantile scurvy. In the experience of the majority of observers it is a disease of the better social class. The most important factor is the food. In the series of cases collected by the committee of the American Pediatric Society the food employed when the child developed scurvy was sterilized milk alone in 68 cases; pasteurized milk alone in 16; breast milk alone in 10; ordinary milk alone in 4. There were many other cases in which sterilized milk was used but in combination with proprietary food. It is safe to conclude that the exciting cause of infantile scurvy is the employment of food, which is suitable for the individual child, but in which there is something lacking, or the presence of some detrimental element, the nature of which is not at all understood. That there must be also some individual predisposition is borne out in my observance of cases. It is a mistake to think that scurvy is a disease in which the gums become purple. They do become purple, but the man who waits for this symptom before making a diagnosis will make a mistake in many cases. The most frequent first symptom is pain, which is usually situated in the lower extremities and sometimes comes so suddenly that trauma is suspected. It is at first moderate, is intermittent and there follows the development of pseudoparalysis. In the involvement of the gums the swelling is sometimes so great that the teeth are obscured. It is a mistake to say that the gums are not involved when there are no teeth. The disease is a distinctly hemorrhagic one and hemorrhage from the kidneys is much more frequent than is ordinarily supposed. Anemia, cachexia and edema are not infrequently associated conditions. Moderate fever, diminished weight, and disturbance of the bowels are sometimes present.

### Prognosis and Differential Diagnosis of Infantile Scurvy

**Dr. Theodore Le Boutillier**: In the ordinary case seen early and not complicated by any intercurrent disease the prognosis is good. In cases seen late and in which no diagnosis, or an incorrect one, is made when the symptoms are advanced the prognosis is unfavorable. Death may be due to sudden hemorrhage, cardiac failure or exhaustion. It is important to lay stress on the diseases from which scurvy can be differentiated. The disease most often mistaken for it is rheumatism. About four-fifths of all cases of scurvy have at one time or other been diagnosed as rheumatism. It is well to emphasize the strong probability of scurvy in children under two years of age with pain and tenderness of legs with or without swelling near the large joints, and in the presence of spongy, swollen or purplish gums with tendency to hemorrhage. This is frequently corroborated by the history of artificial feeding. Rapid improvement on antiscorbutic diet will clear up all doubts.

### Treatment of Infantile Scurvy

**Dr. Maurice Ostheimer**: The treatment of infantile scurvy is specific, *i. e.*, the administration of orange juice or other fruit juices. If the cause appears to lie in some proprietary food, condensed milk or sterilized milk, on which the infant has been fed, the food should be stopped, substituting for it uncooked milk. Recovery results rapidly in every case unless the diagnosis be made too late for the treatment to be effective. Drugs are of no value in infantile scurvy. In those rare cases in which the child is breast fed, having the mother eat several oranges a day benefits the child. Rest is essential with as little handling of the child as possible.

### Discussion on Infantile Scurvy

**Dr. J. C. Gittings**: The question of predisposition as well as the autointoxication theory is of importance. The bacterial theory could never be substantiated after the numerous failures to attach any one bacterium to the disease and particularly because of the fact that the cure is so certain in the use of orange juice. The comparative rarity of infantile scurvy is explained by the campaign waged against it.

**Dr. Alfred Hand, Jr.**: The existence of this disease is one of the most important arguments for the necessity of clean certified milk. The treatment of the attack itself is, of course, only orange juice or fresh fruit juice of some kind. The treatment of the development of scurvy goes back to remedying all the wrongs in the care of the child, especially those of the diet. Baked potato has been claimed to be a specific given in connection with orange and other fruit juices.

**Dr. Henry Leffmann**: During several years service as port physician of the Port of Philadelphia I had opportunity to see many hundreds of sailors just after sea voyages. In all that time I recollect seeing only a few cases of scurvy and those not severe. These were on a ship that had been about six months coming from Calcutta. The shorter voyages of to-day and improved methods of food preservation have prevented the appearance of the disease which did so much harm in the days of the Tudors and Stuarts. The modern systems of food preservation do not, however, wholly overcome the tendency to scorbutic trouble. An explorer who spent four months in Alaska said that the warmest day was 31° below zero; the coldest 85° below. Severe scurvy occurred but the symptoms abated as soon as fresh food, even a few potatoes, could be obtained. The British maritime regulations require each vessel to carry lime juice as an antiscorbutic. It may be a question whether the extensive development of cold-storage systems may bring about a scorbutic condition not sufficiently marked to secure prompt or correct diagnosis. Ultimately, we may be worse off than under the régime of salicylic acid and sodium benzoate. We may have a sort of demographic scorbutic period and the maintenance of the public health will require still greater supervision than that now accorded to it.

# Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

## THE PUBLICATION OF A BULLETIN BY THE COUNTY SOCIETY

By Henry Glover Langworthy, M.D.

DUBUQUE, IOWA

There can be little question that every county medical society with a membership of forty-five or more would be greatly benefited by having some form of a regularly printed quarterly or monthly bulletin. The several reasons for the advocacy of such a plan are as follows:

1. The work, while naturally devolving on the society secretary, is not at all burdensome. A four-page bulletin (program and bulletin) would be sufficient.
2. The expense will be little more than publishing the average society program.
3. Interest in society work is apt to be increased in direct ratio as members are kept in touch with their own community.
4. The bulletin plan is probably the most practical way I know of raising the medical standards of a county.
5. I can attest that this method is successful, having followed it since December, 1907, as secretary of the Dubuque County Medical Society at Dubuque, Iowa.

The bulletin becomes at once the official program and bulletin of the society and as such is an index of the practice of medicine in the locality. It serves the double purpose of stimulating society life as well as issuing a warning against possible evil doers and certain unethical practices. The plan suggested may be roughly outlined as follows: For the initial year or eighteen months of its existence the bulletin should be a small one of not more than four pages and of sufficient size to readily slip into a letter envelope. This can be mailed unsealed. On the first page may be printed "Program of the ——— County Medical Society," followed by the name of the city, state, day of the week, month, year, and, for example, "At ——— Public Library, 8 p. m." The second page will naturally contain the full program of the meeting. At the bottom of the program page may also be stated that the meeting will be called to order by the president promptly at 8 p. m. Often it will be found advantageous to mention that the members of an adjoining county medical society are expected to be the guests of the evening. The upper part of the third page includes the complete list of the officers of the society. The remaining half of this third and all of the last or fourth page is to be used as the bulletin proper. The strictly bulletin part can be devoted to all sorts of miscellaneous medical news and society announcements.

My own monthly bulletin began by stating that the bulletin would be issued one week in advance of the meetings. Other news and notices were also included which seemed in keeping with early notices. The less complicated the beginning, I think, the less friction the strictly bulletin part is apt to encounter. Such announcements as, "Those who desire to exhibit pathologic specimens, etc., kindly notify the president or secretary at least ten days before the date set for meeting," tends to arouse interest and increase the attendance. Official notification by the treasurer and other officers fit in nicely. After three or four issues one cautiously begins the insertion of, perhaps, personal items concerning the men who are doing commendable work in one line or another. Personal mention, however, is often a prolific source of ill feeling.

In order to stimulate interest in the program itself, it may seem wise to mention that the program committee or the secretary is at work outlining the program for the ensuing year and that short papers on medical topics will be welcomed. On account of the limited time at the meetings no address or paper should occupy more than fifteen or twenty minutes in its delivery and no member be expected to speak longer than seven minutes in discussion. In small societies where the men are not engaged in original research the post-graduate course as outlined in The Journal of the American Medical Association may be followed in a general way.

The last month of every year the bulletin should publish a list of all county members with addresses. Notices of the county meetings in the vicinity I have found very good insertions for the bulletin part as they are always well received. Comments on such subjects as medical libraries, enlarging the membership, creating a state auxiliary laboratory if the place is large enough to warrant it, notes relating to society life, possible permanent headquarters for meetings, medical ethics, editorial remarks on many of the better papers presented, discussion of office business methods, nostrum evils, establishment of a public antituberculosis society, publication of portions of the revised by-laws, etc.—all will have their place as time goes on.

The censors will be found an excellent body to which doubtful bulletin insertions may be referred. An honest effort should always be made to avoid mistakes. It is surprising what can be accomplished with even a slight effort on the part of any progressive secretary, and the bulletin, no matter what its size, will be thoroughly appreciated by the entire membership after the publication has once been coming regularly. The criticisms (and there will be some according to the extent of selfish feeling of men who may consider their personal interest jeopardized) will really count for little. With tact and giving all an equal chance to read papers and appear prominently before the society the program and bulletin will soon be found a pleasure and well worth while.

A secretary carrying the above plan out in a conscientious manner will probably find it difficult to resign his position for years at least. It is surprising how far reaching even the simplest society organ becomes. If the society has a membership of forty-five and growing a bit, one hundred copies may be issued each month or quarterly and extra copies forwarded to men in adjacent counties who might probably attend if given the opportunity. Occasionally it is well to invite a few men from out of town to enjoy a good-fellowship dinner.

While I do not expect or advocate that every secretary shall become a medical editor, it would seem that a society of any size should be able to find some one interested enough in its general welfare to spend the time necessary for the work, not to mention the individual good resulting to the one taking it up. The bulletin plan is hardly called for in locations where the majority of members do not reside in the same town. Where a county is thinly settled and not more than three or four physicians are to be found together and members can meet each other only by driving long stretches, such a plan is hardly necessary, nor is the time yet ripe for it. Almost every city, however, with a registration of thirty physicians will find the program and bulletin plan well worth trying.

## POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

### Seventh Month—Fourth Weekly Meeting

### Propaganda Against Tuberculosis (Continued)

Methods (Continued): 3. *Treatment:* Establishment of dispensaries and clinics for tuberculosis. Clinics for adults, for children. Evening clinics for incipient cases. Free examinations. Dispensaries and sanatoriums, public and private, for charity cases, for those able to pay moderate fees. Tuberculosis classes. Day camps. Special relief of consumptives in their homes, paying rent, providing food, clothing, etc.

4. *Legislation:* Creating sentiment and securing enactment of legislation to control causes of contagion. Antispitting ordinances. Compulsory notification of cases. Inspection and disinfection of schools, factories, tenements, public conveyances, etc. Periodic examination of school children,

factory employees. Segregation of open cases of tuberculosis. Tenement house laws. Ventilation of schools, factories, public buildings. Regulation of bovine tuberculosis. Securing appropriations for clinics, dispensaries, sanatoria.

**Monthly Meeting**

What the County Society May Do to Prevent the Spread of Tuberculosis.

Status of Tuberculosis in this City (County).

The Early Diagnosis of Tuberculosis in Children.

The Practical Value of the Laboratory Aids in the Diagnosis of Tuberculosis.

## Marriages

Francis B. Rothrock, M.D., to Miss Nancy Ewing, both of Colorado Springs, February 23.

Walter Lloyd Finton, M.D., to Miss Ella S. Hobart, both of Jackson, Mich., February 16.

Marion Cowan, M.D. and Charles I. Burrows, both of Lynn, Mass., at Philadelphia, recently.

John I. Pennington, M.D., Baltimore, to Miss Blanche Bantz, at Annapolis, Md., February 17.

Charles LeRoy Lowman, M.D., Los Angeles, Cal., to Miss Elizabeth Arnold, of Galesburg, Ill., recently.

## Deaths

**George G. Groff, M.D.** Long Island College Hospital, 1877; formerly a member of the American Medical Association; a member of the Medical Society of the State of Pennsylvania, Association of Military Surgeons of the United States and American Academy of Medicine; professor of natural history and later of anatomy and physiology in Bucknell University, Lewisburg; assistant surgeon in the National Guard of Pennsylvania; major and brigade surgeon of volunteers during the Spanish-American War, and afterwards secretary and treasurer of the Superior Board of Health of Porto Rico; for several years president of the State Board of Health; a member of the State Board of Agriculture, and of the State Medical and Dental councils; coroner of Union county; and school director of Lewisburg; died suddenly at his home on College Hill, Lewisburg, February 18, from angina pectoris, aged 58.

**Anson Hurd, M.D.** Starling Medical College, Columbus, Ohio, 1852; Kentucky School of Medicine, 1882; a member of the Ohio State Medical Association; president of the Northwestern Ohio Medical Society in 1876; for several terms a representative in the legislature; assistant surgeon of the Twentieth Indiana Volunteer Infantry, and later surgeon of the Fourteenth Indiana Volunteer Infantry during the Civil War; for many years local surgeon of the Lake Erie and Western Railroad at Findlay, and for seven years secretary of the local board of pension examiners; for several terms a member of the city council; president of the board of trade in 1887; president of the Findlay Improvement Association in 1888; died at his home, February 18, from senile debility, aged 85.

**James Enoch Tuell, M.D.** Jefferson Medical College, 1884; a member of the American Medical Association; formerly president of the Kennebec County (Maine) Medical Association; and a member of the Maine Academy of Medicine and Science, and American Public Health Association; surgeon to the Augusta City Hospital; health officer of East Machias from 1890 to 1893, and a member of the Augusta Board of Health in 1895 and 1896; died at his home in Augusta, February 11, from pneumonia, aged 55.

**Timothy Lawrence Barber, M.D.** University of Pennsylvania, 1882; a member of the American Medical Association and American Electro-Therapeutic Association; ex-president of the West Virginia State Medical Association, Kanawha County Medical Society and Kanawha County Board of Health; for many years secretary of the local board of pension examiners; a member and formerly president of the West Virginia State Board of Health; died at his home in Charleston, February 24, from pernicious anemia, aged 56.

**Christian Jonsson, M.D.** Medical College of Reykjavik, Iceland, 1888; a member of the American Medical Association; a member of the staff of Mercy Hospital and president of the staff of Agatha Hospital, Clinton, Iowa; formerly president of the Clinton County Medical Society, and president of the local board of pension examining surgeons; from 1889-1891 surgeon on the Thingvalla Line; died in the Agatha Hospital, Clinton, February 26, from cancer of the stomach, aged 47.

**Ezekiel W. Cooper, M.D.** University of Pennsylvania, 1866; a member of the Delaware State Medical Society; for several years president of the State Board of Health; a member of the medical examining board of the state society; a member of the constitutional convention which framed the new constitution of 1896-1897; surgeon of volunteers during the Civil War; died at his home in Camden, February 21, from cerebral hemorrhage, aged 72.

**Marion L. Hefflefinger, M.D.** Kentucky School of Medicine, Louisville, 1887; a member of the State Medical Association of Texas; surgeon of volunteers during the Spanish-American War, and after its close, contract surgeon in the army with Philippine service; died February 17 at his home in Chicota, as result of injuries received in a railway accident, six months before, aged 43.

**Charles George Burhenn, M.D.** Western Pennsylvania Medical College, Pittsburg, 1899; a member of the American Medical Association; surgeon to the Pittsburg, McKeesport and Greensburg Street Railway Company; a member of the Jeanette (Pa.) Board of Education; died at his home, February 21, from septicemia, due to a bite on the finger from a diphtheria patient, aged 34.

**Harleigh B. Hoechst, M.D.** Maryland Medical College, Baltimore, 1900; Baltimore Medical College, 1901; a member of the Adams County (Pa.) Medical Society; assistant demonstrator of anatomy in the Maryland Medical College in 1900; a member of the Board of Health of the Borough of East Berlin; died at his home in East Berlin, February 24, from heart disease, aged 33.

**Alonzo M. Barnes, M.D.** Penn Medical University, Philadelphia, 1858; surgeon of the Third U. S. Colored Infantry during the Civil War; a member of the visiting and consulting staff of St. Luke's Hospital, Philadelphia; died at his home in that city, February 25, after an invalidism of two years from injuries received from a fall from a carriage, aged 72.

**Edgar B. Shumway, M.D.** Rush Medical College, 1874; a member of the American Medical Association; a member of the legislature in 1882 and of the state senate in 1884; formerly local surgeon for the Illinois Central and Big Four systems at Peotone, Ill.; died at his home in Chicago, March 2, from cerebral hemorrhage, aged 58.

**Theodore S. Christ, M.D.** University of Pennsylvania, 1860; assistant surgeon of the Fourth and Forty-fifth Pennsylvania Volunteer Infantry, and later brigade and division surgeon during the Civil War; president of the Center County Medical Society; died at his home in State College, Pa., February 16, from senile debility, aged 80.

**Benjamin R. Parke, M.D.** Jefferson Medical College, 1870; a member of the American Medical Association; a veteran of the Civil War; for twenty years a member, and at the time of his death president of the Wellsville (Ohio) Board of Education; died at his home, February 18, from cerebral hemorrhage, aged 67.

**John Wilson Martin, M.D.** New Orleans School of Medicine, 1846; one of the oldest practitioners of southeastern Arkansas; a Confederate veteran, and for several years president of the Merchants' and Planters Bank of Warren; died at his home in that city, February 11, from cerebral hemorrhage, aged 91.

**Thomas Browning Mansfield, M.D.** Medical College of Ohio, Cincinnati, 1878; a veteran of the Civil War; for many years a practitioner of Sac City, Iowa; local pension examiner for more than 25 years; died at his home in Ocean Park, Cal., February 11, from septicemia due to an operation wound, aged 65.

**James M. O'Kelly, M.D.** Kentucky School of Medicine, Louisville, 1877; a member of the Medical Society of the State of North Carolina; and at one time president of the Durham Medical Society; died at his home in that city, February 17, from chronic parenchymatous nephritis, aged 57.

**Monroe Budd Long, M.D.** College of Physicians and Surgeons, New York City, 1875; a member of the American Medical Association; dean of the staff of Muhlenberg Hospital, Plainfield, N. J.; twice coroner of Union county; died at his home, February 20, from heart disease, aged 60.

**John A. Beauchamp**, M.D. University of Nashville, 1861; a member of the American Medical Association; for many years superintendent of the Central Hospital for the Insane, Nashville; died in that institution February 25, from heart disease, following an attack of influenza, aged 70.

**Frederick von Buelow**, M.D. University of California, San Francisco, 1877; for nearly half a century a practitioner of San Francisco; died at the Central Emergency Hospital in that city, February 24, from the effects of a fall in which his skull was fractured, aged 79.

**Charles F. Spangler**, M.D. Jefferson Medical College, 1881; of Kane, Pa.; a member of the American Medical Association; consulting physician to the Kane Summit Hospital; formerly coroner of York county, Pa.; died in York, Pa., February 13, from heart disease, aged 50.

**James Thompson**, M.D. Jefferson Medical College, 1870; a member of the Missouri State Medical Association; professor of materia medica in the Medico-Chirurgical College of Kansas City, Mo.; died at his home in Kansas City, February 13, from heart disease, aged 65.

**Augustus Richter**, M.D. Pennsylvania Medical College, Gettysburg, 1851; an honorary member of the Medical Society of the State of Pennsylvania; and one of the founders of the National Science Association; died at his home in Williamsport, February 20, aged 87.

**Frederick Austin Patterson**, M.D. Central Medical College of St. Joseph, Mo., 1899; a member of the Missouri State Medical Association; acting superintendent of State Hospital for the Insane No. 2, St. Joseph; died in that institution, February 18, from uremia, aged 46.

**George M. Reddish**, M.D. University of Louisville, 1885; a member of the American Medical Association; a member of the school board of Somerset, Ky.; local surgeon of the Queen and Crescent Route; died in Oklahoma City, February 19, from facial erysipelas, aged 55.

**William A. Miller**, M.D. Missouri Medical College, St. Louis, 1897; a member of the Wyoming State Medical Society; local surgeon of the Burlington System and city physician of Sheridan; died in the Sheridan State Hospital, February 12, from peritonitis, aged 36.

**George Monro Darrach**, M.D. Pennsylvania Medical College, Gettysburg, 1850; formerly of Cumberland, Ind.; one of the organizers of the Marion County Medical Society; died at the home of his son in East St. Louis, Ill., February 25, from influenza, aged 83.

**Chester E. Albright**, M.D. Pennsylvania Medical College, Gettysburg, 1854; for more than fifty years a practitioner of Muncy, Pa.; a member of the Medical Society of the State of Pennsylvania; died at his home, February 2, from gastritis, aged 78.

**John Emil Traub**, M.D. College of Physicians and Surgeons, New York City, 1886; a fellow of the New York Academy of Medicine; assistant attending physician to St. Luke's Hospital; died at his home in New York City, Dec. 25, 1909, aged 45.

**Neal McInnes**, of Augusta, Ga.; chairman of the Jury Commission of Richmond county; a member of the board of education, and president of the County Reformatory Board; died in Walters Park Sanitarium, Pa., Aug. 25, 1909, from aneurism, aged 65.

**Stanley H. Brooks**, M.D. University Medical College, of Kansas City, Mo., 1885; of Mound City, Kan.; a member of the American Medical Association; died in the University Hospital, Kansas City, February 17, from gallstone disease, aged 46.

**William David Williams**, M.D. Kentucky School of Medicine, Louisville, 1889; of Olive Hill, Ky.; a member of the Kentucky State Medical Association; died in the Pope Sanitarium, Louisville, February 17, from cerebral hemorrhage, aged 54.

**Richard F. Lamson**, M.D. Cincinnati College of Medicine and Surgery, 1877; surgeon of volunteers during the Civil War; a practitioner of medicine for 48 years; died at his home in Bryan, Ohio, February 10, from senile dementia, aged 71.

**Emma Josephine Miner Mitchell**, M.D. University of Michigan, Ann Arbor, 1901; a member of the American Medical Association; died at her home in Lafayette, Ind., March 1, from septicemia, following an ulcerated sore throat.

**Ora Clay Swift**, M.D. University of Buffalo, 1900; a member of the Brooklyn Medical Society, and a member of the staff of the Bushwick and Mutual hospitals; died at his home in Brooklyn, Dec. 21, 1909, from pneumonia, aged 35.

**James Whitsett Quinn**, M.D. University of Nashville, 1855; chief surgeon of the Refugees' and Freedmans' Hospital, Little Rock, Ark., in 1861; died at the home of his daughter in that city, February 1, from senile debility, aged 81.

**Theophilus P. Taylor**, M.D. Eclectic Medical Institute, Cincinnati, 1881; formerly a member of the Ohio State Medical Association; died at his home in Celina, February 19, from cerebral hemorrhage, aged 51.

**Joseph Melville Deacon**, M.D. University of Vermont, Burlington, 1883; for several years in charge of a private hospital in Milltown, N. B.; died suddenly at his home in that place, February 20, aged 46.

**Arthur Sinclair Kenaga**, M.D. Rush Medical College, 1896; a member of the Illinois State Medical Society; of Kankakee; died at the home of his father in that city, February 26, from uremia, aged 35.

**William Preston Lyon**, M.D. Vanderbilt University, Nashville, 1900; a member of the State Medical Association of Texas; died at his home in Stone Point, February 20, from pneumonia, aged 31.

**Willard Porter Woodbury**, M.D. Harvard Medical School, Boston, 1904; a member of the Massachusetts Medical Society; died at his home in Beverly, Mass., February 26, from acute nephritis, aged 31.

**Joseph Roberts Clausen**, M.D. Jefferson Medical College, 1882; formerly a member of the Medical Society of the State of Pennsylvania; died at his home in West Philadelphia, January 8, aged 70.

**John W. Redwine**, M.D. Missouri Medical College, St. Louis, 1882; a member of the Illinois State Medical Society; died at his home in White Hall, February 12, from pulmonary tuberculosis, aged 51.

**L. Barstow Irish**, M.D. Berkshire Medical College, Pittsfield, Mass., 1861; Bellevue Hospital Medical College, 1862; died at his home in Brooklyn, N. Y., February 17, from arteriosclerosis, aged 76.

**Harry J. Boyd**, M.D. University of Maryland, Baltimore, 1888; of Belair, Md.; died in the Union Protestant Infirmary, Baltimore, February 14, three weeks after a surgical operation, aged 41.

**John Skinner**, M.D. Harvard Medical School, 1856; a member of the Massachusetts Medical Society; died at his home in Roxbury, Boston, Dec. 27, 1909, from cerebral hemorrhage, aged 85.

**Samuel Warren Vance**, M.D. Medical College of Ohio, Cincinnati, 1855; one of the oldest practitioners of southeastern Indiana; died at his home near Connersville, February 14, aged 89.

**Burr Thad Wise**, M.D. Southern Medical College, Atlanta, 1882; a member of the Medical Association of Georgia; died at his home in Plains, February 12, from pneumonia, aged 51.

**Benjamin F. Johnson**, M.D. University of Louisville, 1884; a member of the State Medical Association of Texas; died at his home in Stockdale, February 18, from pneumonia, aged 60.

**James W. Swagerty** (license, Texas, 1894); at one time an officer in the U. S. Marine-Hospital Service; died at his home in Groveton, Texas, February 10, from pneumonia, aged 41.

**Leonard N. Miller**, M.D. John A. Creighton Medical College, Omaha, 1908; died at the home of his mother in Kennard, Neb., January 21, from lymphosarcoma, aged 22.

**Howard E. Munn**, M.D. Eclectic Medical College of the City of New York, 1873; Toledo (Ohio) Medical College, 1884; died at his home in Toledo, Nov. 23, 1909, aged 59.

**George W. Kirkland**, M.D. Medical College of Georgia, Augusta, 1868; a Confederate veteran; died at his home in Summertown, Ga., February 20, aged 64.

**William Carl Ziepprecht**, M.D. Germany, formerly a surgeon in the German army; died at his home in Dubuque, Iowa, June 8, 1909, from angina pectoris, aged 82.

**Walter Thomas McKnight**, M.D. University of Nashville and Vanderbilt University, 1888; of Marlin, Texas; died in Austin, Texas, February 12, aged 50.

**Thomas D. Williams**, M.D. Hospital College of Medicine, Louisville, 1876; died at his home in Bardstown, Ky., February 14, from pneumonia, aged 70.

**George Howard Palmer**, M.D. New York University, New York City, 1884; died at his home in Brooklyn, February 18, from cerebral hemorrhage, aged 47.

**Edward H. Osborne** (license, Kan., examination, 1901); for thirty-seven years a practitioner; died at his home in Kansas City, Kan., Oct. 26, 1909, aged 69.

**James G. Parshall** (license, verification, Texas, 1908); a practitioner for 38 years; died at his home in Clifton, January 10, from diarrhea, aged 73.

**Benjamin E. Throckmorton,** Louisville Medical College, 1888; of McKinney, Texas; died in a sanitarium in Dallas, February 24, from heart disease, aged 44.

**George F. Hamilton, M.D.** Bennett Medical College, Chicago, 1870; a veteran of the Civil War; died at his home in Augusta, Wis., Dec. 30, 1909, aged 70.

**Frank E. Matchette, M.D.** Medical College of Ohio, Cincinnati, 1877; died at his home in Greenville, Ohio, February 16, from pneumonia, aged 59.

**James Hennessy Hanley, M.D.** Queens University, Kingston, Ont., 1900; of Watertown, N. Y.; died at his father's home in Ottawa, Ont., February 8.

**Andrew Wailes Horton, M.D.** University of Alabama, Mobile, 1899; of Pelham, Ala.; died in a sanitarium in Atlanta, Ga., February 25, aged 35.

**Charles Henderson Watkins, M.D.** Washington University, St. Louis, 1877; died at his home in Joplin, Mo., February 24, from uremia, aged 58.

**George Little, M.D.** Eclectic Medical Institute, Cincinnati, 1883; of Crawford, Ga.; died in a sanitarium in Atlanta, February 17, aged 45.

**John Morrison, M.D.** McGill University, Montreal, 1872; died at his home in Pierson, Man., January 26, from acute gastritis, aged 67.

**William Ward,** for nearly 70 years a practitioner of Ohio; died at his home in Harveysburg, Dec. 10, 1909, from angina pectoris, aged 88.

**Jesse Russell, M.D.** University of Louisville, 1870; died at his home near Allensville, Ky., January 21, from heart disease, aged 61.

**Josephus Goodenough, M.D.** Eclectic Medical Institute, Cincinnati, 1858; died at his home in Clarkston, Mich., February 18, aged 79.

**Henry Paul Lewandowski** (license, examination, 1874); of New York City; died in the Sydenham Hospital, Dec. 4, 1909, aged 61.

**Daniel Stone Lyman, M.D.** Medical College of Ohio, 1847; died at his home in Goshen, Ohio, February 27, aged 88.

**Walter Franklin Weber, M.D.** University of Maryland, 1909; died at his home in Oakland, Md., February 9, aged 25.

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

Arizona: Phoenix, April 4-5. Sec., Dr. Ancil Martin.
California: San Francisco, April 5. Sec., Dr. Charles L. Tisdale, 929 Butler Building.
Colorado: Denver, April 5. Sec., Dr. S. D. VanMeter, 1723 Tremont Place.
Florida: Jacksonville, April 4-5. Sec., Dr. J. D. Fernandez.
Idaho: Boise, April 5. Sec., Dr. O. J. Allen, Bellevue.
Minnesota: State University, Minneapolis, April 5. Sec., Dr. W. S. Fullerton, 214 American Nat'l Bank Bldg., St. Paul.
Montana: The Capitol, Helena, April 5. Sec., Dr. W. C. Riddell.
New Mexico: Santa Fe, April 11-12. Sec., Dr. J. A. Massie.
North Dakota: Grand Forks, April 1-4. Sec., Dr. H. M. Wheeler.
Oklahoma: Ione Hotel, Guthrie, April 12. Sec., Dr. Frank P. Davis, Enid.
Rhode Island: State House, Providence, April 7-8. Sec., Dr. Gardner T. Swarts, Room 315, State House.
West Virginia: Wheeling, April 12-14. Sec., Dr. H. A. Barbee, Point Pleasant.

## The Teaching of Pediatrics

The following communication, which will explain itself, is an important addition to the present active discussion of the medical curriculum. Particular attention is called to paragraph *h* referring to a hospital and dispensary for children as a chief essential in the teaching of pediatrics by any medical school:

*To the Editor:*—The Committee on Teaching of Pediatrics appointed by the Association of American Teachers of the Diseases of Children at its meeting in Chicago, June 1, 1908, made a preliminary report at the meeting of that body in Atlantic City, June 7, 1909.

The objects of this committee were "To secure detailed information as to the present status of the teaching of pediatrics in this country; to define its proper scope; to determine an ideal and also a minimum syllabus for the teaching of pediatrics in our medical colleges; to confer with the Association of American Medical Colleges, with the Council on Medical Education of the American Medical Association, and with the Confederation of State Boards of Examination and Registration, with a view of securing adequate place and time in college curricula, and state examinations in this branch, and to regulating the conditions of the clinical facilities and the equipment necessary for the proper teaching and study of children and their diseases."

The report of the committee embraced numerous data collected from teachers in forty American medical colleges, and other sources, and its details are too voluminous for insertion here. The committee consisted of the following teachers: S. W. Kelley, Cleveland College of Physicians and Surgeons; A. C. Cotton, Rush Medical College, Chicago; H. M. McClanahan, University of Nebraska, Omaha; W. C. Hollopeter, Medico-Chirurgical College, Philadelphia; W. W. Butterworth, Tulane University, New Orleans.

The report, which was received and adopted unanimously by the association, concluded as follows:

(a) Every medical school should have a chair of pediatrics. It should be a full professorship, quite independent; i. e., not subordinate to any other chair.

(b) Pediatrics should be compulsory; i. e., required for graduation.

(c) The number of men on the teaching staff may vary in different schools according to the number of students, but the teaching force should be large enough to devote personal attention to the work of each student.

(d) Exact time allowance has not been figured precisely from our data collected from teachers. It should be as much as that devoted to any other practical branch. Ten per cent. of the third and fourth years, or certainly not less than 100 hours, should be the minimum.

(e) Pediatrics should be studied in both the junior and senior years, the course being graded.

(f) The course should include the anatomy, physiology and all the ordinary abnormal conditions of infancy and childhood, both medical and surgical. When preferred the surgical side may be taught in the department of surgery, but it should not be ignored or only casually referred to as it usually has been. At some future time it may prove expedient to introduce a special course in anatomy into the department of anatomy, as some colleges are now giving special attention in the anatomic department to surgical anatomy, brain and nerve anatomy, etc. It is quite as essential that the special anatomy of the developing period should be presented.

(g) Didactic lectures still have a useful place; but a large part of the teaching should be clinical, both in hospital and dispensary. The class should be divided into sections of not more than ten or twelve students for most effective clinical teaching, giving the student actual experience under the teacher in handling the patients.

(h) Clinical cases in ample numbers and variety to illustrate the hygiene of normal infancy and childhood and all the ordinary malformations, injuries and diseased conditions, including the contagious diseases, are a necessity. We find more schools open to criticism for lack of clinical material and its proper utilization than for any other short-coming. This lack of clinical facilities is most frequently noticeable in regard to the contagious diseases. No college without a hospital or dispensary for children is prepared to teach pediatrics.

(i) A separate laboratory of pediatrics is not a necessity, but laboratories for general medical and surgical examinations should be available and be supplemented for the pediatric work.

(j) The anatomic and pathologic museums should be supplied with specimens, and the college library with text-books, reference books and periodicals on pediatrics.

Alfred C. Cotton, *President*, Chicago.

# Book Notices

IMMUNITY AND SPECIFIC THERAPY. By W. D'Este Emery, M.D., B.Sc., Clinical Pathologist to King's College Hospital and Pathologist to the Children's Hospital, Paddington Green. Cloth. Pp. 448, with illustrations. Price, $3.50 net. New York: Paul B. Hoeber, 1909.

Emery's book is an excellent presentation of the main facts, principles and theories concerned in these subjects of immunity and specific therapy. From the literary point of view it is unusually good, considering that the subjects are difficult to present interestingly. Its interest and instructive value are further increased by the many apt illustrations and analogies which the author has at his command.

The first chapter, "Introductory and General," defines immunity and considers the various types, as natural and acquired, active and passive, mixed immunity and local immunity; discusses the character of the virulence of micro-organisms and the means of increasing it or lowering it for purposes of vaccination; and, finally, devotes two pages to the theories of immunity. Emery's definition of immunity seems very wide in at least this regard: that he sometimes refers to the non-occurrence of a disease (as gout) as indicating immunity on the part of those concerned, whereas it is just as reasonable to suppose that the individuals are free from the disease because the causative conditions are not present. The discussion of the different types of immunity to bacterial diseases is excellent. In the second chapter, on the "Nature of Toxins," the subject is considered under the two headings of "exotoxins" and "endotoxins." The various specific and cytolytic bacterial toxins are described, and the author leans to the view that the endotoxins are true specific toxins, for which it may be possible to obtain specific antitoxins. The third chapter, "The Phenomenon of Antitoxin Formation," would seem to be mislabeled, since it really deals with the means by which antitoxins may be produced practically, referring only incidentally to the antitoxin "curve" in the immunized horse.

In discussing the "Interreactions of Toxin and Antitoxin" (Chapter 4), the complicated theories and experiments which led Ehrlich to his conclusions regarding the constitution of toxin and antitoxin are presented in a good deal of detail and for the most part with clearness. There is some evidence of careless proofreading on page 78, where it would seem that "c.c." is used in several places where "parts" is intended, and at the top of page 79 where "antitoxin" seems to have been used accidentally instead of "toxin." The physico-chemical view of Arrhenius and Madson, and the absorption theory of Bordet are given some consideration.

Ehrlich's theory is dealt with in a special chapter (5) entitled "The Origin of Antitoxin—The Side-Chain Theory." It is a clear statement. "Immunity to Toxins" is described under three headings: (1) Active, as in disease or in vaccination; (2) passive, as in the administration of antitoxin; and (3) those cases of natural immunity to toxins which are not accompanied by the presence of antitoxins in the blood. The next three chapters deal with "Bacteriolysis and Allied Phenomena" (hemolysis, etc.), "The Agglutinins" and "The Precipitins." Phagocytosis is dealt with rather extensively, from a description of Metchnikoff's first observations on the daphnia, to the more recent data on the opsonins. Credit seems to be given rather grudgingly to Denys and LeClef and others for their pioneer work on the influence of serum on phagocytosis, which, together with the method of Leishman, is really at the basis of the colossal reputation built up by Wright through the invention of the opsonic index and its vigorous exploitation. Reversing the expression used by Emery, it may be said that the invention of the opsonic index and the advocacy of vaccine therapy on a broader scale in no way detract from the importance of the fundamental observation of Denys and LeClef, namely, that some property of the serum is of the utmost importance for phagocytosis. The aggressins are discussed in this chapter, which, throughout, holds the interest of the reader.

Two chapters of particular interest are those on "Reactions and Similar Phenomena" and the "Colloidal Theory of Immunity." In the former the tuberculin reaction in its various forms, the complement fixation reaction for syphilis, von Pirquet's conception of "allergie," anaphylaxis, and the serum disease are discussed; in the latter, the properties of colloids, and certain analogous properties in relation to immunity reactions. A chapter on "Immunity to Bacteria" is followed by a section on "Practical Applications," in which some of the more important infections in their relation to immunity are considered.

The book is a valuable addition to those which offer a summary of the subject of immunity.

FOOD INSPECTION AND ANALYSIS. By Albert E. Leach, S.B., Chief of the Denver Food and Drug Inspection Laboratory, Bureau of Chemistry, U S Department of Agriculture. Second Edition. Cloth. Pp 929, with 278 Illustrations. Price, $7.50. New York: John Wiley & Sons, 1909.

This book is intended for public analysts, health officers, sanitary chemists and food economists, and its claimed purpose is not to go beyond the strictly chemical and physical processes involved in making the analyses by which the proximate components of the food are determined. This purpose in the present work has especial reference to adulteration, sophistication, substitution, the addition of more or less harmful preservatives, and the other more or less subtle methods of manufacturers and firms or individuals engaged in the preparation of beverages, foods and food products. Diet and metabolism are not discussed, but the work of Atwater and his co-workers is mentioned. Methods of manufacture or preparation of foods and beverages are given briefly, and complete working directions for the analysis of every class of foods and drinks and approved tests for the detection of impurities, adulterations, coloring-matters, preservatives, etc., are set out. The work has numerous illustrations of apparatus and abounds in tables of reference, percentage tables, etc., and contains 40 pages of photomicrographic plates of the histologic structure of the various grains. The descriptions of chemical processes, methods of analysis and tests are clear, and nothing seems to have been overlooked to make the book a practical working exposition for the food analyst. There is not a great deal of critical comment in the book on the effects of adulterations, etc., the aim being simply to state the facts. An exception, however, is found in the case of meat-extracts and meat-juices; the author calls attention to the rather wide discrepancy between the claims of some manufacturers as to their products and the results of their analysis. Meat-extracts, he says, have practically no food-value and are useful only as stimulants, much like tea and coffee. He finds that commercial meat-juice is far different in composition and food-value from the juice made in the laboratory, and says that it appears to be impracticable so to preserve true meat-juice that it can become an article of commerce. That it should require a book of 954 pages to set out the adulterations and sophistications of products including every form of food used by man, and the methods for the detection of such adulterations and sophistications, is a rather severe commentary on the ethics of business. A reading of the book suggests that a large number of men from technical schools are devoting much energy, ingenuity and ability to the more or less devious methods of food sophisticators. Even a superficial reading of this book by the physician will be useful and suggestive to him of the possible etiology of much of the morbidity with which he comes daily in contact. It is a complete book on a subject that calls for unceasing vigilance on the part of officials and others interested.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. By J. Bergen Ogden, M.D., New York, N. Y., Medical Chemist to the [illegible] ance Co., N. Y. Third Edition. Cloth. Pp. [illegible] Price, $3 net. Philadelphia: W. B. Sau[illegible]

That three editions of this popular and well-known book have appeared in such a short time is sufficient evidence of its merit. The subject-matter has been brought up to date by the omission of much unnecessary and unimportant material and by the addition of many of the newer and more important tests for various normal and abnormal constituents of the urine. It is true that many accurate, reliable, and satisfactory tests are omitted; but this should not militate against the usefulness of the book, as it is to be remembered that an author necessarily recommends those tests and methods which he himself has found to be the most satisfactory for such work. If the student, general practitioner, or specialist masters the examination of the urine as outlined by Ogden, he need have no fear of getting into difficulties in his clinical examinations. The details of the various tests and methods are given in a clear and concise manner, so that no doubt should exist on the part of the worker as to the methods to be followed. The clinical significance of the various urinary findings is given in sufficient outline to permit of the proper interpretation of abnormalities.

In the sections treating of the urinary changes in various pathologic conditions, both renal and general, one will find a thoroughly up-to-date treatment of such variations. This section should be especially valuable to the practitioner, who is frequently at a loss to interpret his findings and who is rarely cognizant of the physiologic variations in such a complex fluid as the urine. This phase of urinary examinations is too often insufficiently discussed in text-books.

In this edition, Ogden has taken the opportunity of adding a section of 13 pages on the "Examination of the Urine for the Purpose of Life-Insurance." Here many important points are brought out which should be absorbed by all having to do with such details. It is, doubtless, true that many examinations of the urine are of little value, and, indeed, often farcical and unreliable for the purpose of establishing the value of a "risk," yet this is unquestionably due to the gross ignorance of the examiner and is no reflection on the conscientious physician, who does his work carefully and who knows how to interpret his urinary findings in the light of the clinical examination of the applicant.

The typography of the book is excellent and its illustrations numerous, accurate, and thoroughly satisfactory. The arrangement of the subject-matter is admirable. The diction is clear and concise and the text is extremely orthodox in its teaching. This work is highly commended both to the student and practitioner.

SMALLPOX AND VACCINATION IN BRITISH INDIA. By S. P. James, M.D., London, D.P.H., Major, Indian Medical Service. Cloth. Pp. 105, with 14 diagrams. Price 7 shillings 6 pence. London; W. Thacker & Co., 2 Creed Lane, 1909.

This volume contains in convenient form a compilation of the government reports regarding vaccination in India. As the author remarks in the preface, "in all countries in Europe where vaccination has been extensively carried on, an appeal to the figures of smallpox mortality has given in favor of the practice an answer as unequivocal as it is satisfactory and it is obviously of great interest to ascertain whether a similar answer results from inquiry in a country like India where the difficulties attending the introduction and progress of vaccination have been enormously greater than in Europe."

Among the difficulties enumerated are the enormous population (230,000,000 of people) scattered over a territory of more than a million square miles; the fact that only 5 or 6 per cent. of the natives can read or write their own language and that the great majority of them, beside being exceedingly ignorant and childish, are so apathetic that they take advantage of protective measures only when they are free of cost and are brought to them. Beside the fact that nearly all the natives of India are suspicious of any measure not sanctioned by the custom of ages and are especially suspicious of any measures advocated by the British government, there is the additional difficulty to overcome that, since very early times, the people of India have worshiped a goddess of smallpox and that certain castes regard it as a religious duty to take no precautions whatever against the disease, its visitation being regarded as a sign of the favor of the goddess. Dr. James mentions many other curious superstitions of the native population which form additional obstacles.

The introductory chapters of the book are devoted to a historical sketch of smallpox and of smallpox inoculation, and of previous attempts at vaccination in India. In Chapter 4 the value of vaccination in India is considered. This chapter is plentifully interspersed with statistics and graphic tables showing the annual smallpox mortality in the various provinces for a long period of years. By way of contrast, the smallpox death-rate in the early years of the nineteenth century is quoted, showing that in Calcutta in 1833, the death-rate from smallpox was 11,796 per million, and that in 1850 this disease caused nearly 47 per cent. of all the deaths in Calcutta. Tables for each of the provinces are given, showing the reduced mortality from 1868-75, when vaccination was first undertaken in any systematic manner, to the present time, when the mortality reports show its ravages to be greatly diminished. In reply to the usual antivaccination argument that the enormous decrease following vaccination is due to "improved sanitary conditions," the author shows that cholera and other epidemic diseases have remained stationary or have increased in virulence during the same time.

Major James' book should be read by every one interested in the prevention and extermination of smallpox.

STUDIES IN IMMUNITY. By Prof. Jules Bordet, Professor of Bacteriology at the University of Brussels, and his Collaborators. Collected and Translated by Frederick P. Gay, A.B., M.D., Instructor in Pathology, Harvard Medical School. First Edition. Cloth. Pp. 529. Price, $6. New York: John Wiley & Sons, 1909.

When we consider that it was Bordet who discovered that the action of a bacteriolytic serum depended on the combined effect of two substances in the serum (the substances which afterward became the amboceptor and complement of Ehrlich); that he was the first to recognize the phenomenon of specific hemolysis by serums and its dependence on two substances of the same type; that he has made contributions of fundamental importance to the subjects of agglutination of bacteria, the action of antitoxins on toxins, and phagocytosis; that, with Gengou, he made certain observations on the fixation of alexin (complement) which later (in the hands of Wassermann) grew into the hemolytic or complement fixation test for syphilis; that he and Gengou have discovered what they believe to be the micro-organism of whooping-cough; and, finally, that he stands as the most prominent and most consistent opponent of the side-chain or chemical theory of immunity proposed by Ehrlich—when we consider these achievements, we cannot fail to have a sense of gratitude that Bordet consented to the collection and publication of this series of thirty papers, which include those of greatest importance by Bordet and those who have worked with him or under his direction.

By way of throwing light on this most interesting man of science, the following may be quoted from Dr. Gay's preface: "Although for more than fifteen years a protagonist in the modern development of immunity, Bordet has continued an investigator instead of becoming a generalizer; he has been led by thoroughness of observation and brilliancy of inductive reasoning to the collection of successive significant facts rather than to the assimilation of scattered data in support of a preconceived theory. Whereas others have been willing to venture more fully explanatory theories of immunity, Bordet, although contributing a disproportionate number of important facts, has contented himself with the hypotheses which bridge from one experiment to another, and has fully realized the necessarily fragmentary nature of our present knowledge in this field of science."

There is no need to discuss the individual papers which are reprinted, in English, in the volume. It is sufficient to state that among them are the original articles in which some of the most important phenomena of immunity were first described.

The last chapter of the book consists of "A General Résumé of Immunity," by Bordet, written expressly for this volume. It is particularly welcome, since it summarizes in a very clear manner the objections which Bordet proposes to the theory of Ehrlich, and describes the alternative hypotheses which he entertains in explaining the phenomena of immunity and serum reactions.

A study of the papers and of the "Résumé" must heighten the respect which the scientific world at present entertains for Bordet, and the work should be the means of affording greater publicity to the views held by the scientist.

AIR AND HEALTH. By Ronald Campbell Macfie, M.A., M.B.C.M., Author of "The Romance of Medicine," etc. Cloth. Pp. 328. Price, $2.50. New York: E. P. Dutton & Co., 1909.

In this day when the importance and value of fresh air and the fresh-air treatment of disease are so clearly recognized a work on air and health is timely. This book treats of fresh air more with reference to the improvement of the general health and well-being of communities and individuals, than in the treatment of particular diseases, such as tuberculosis. The author believes that while treatment of tuberculosis in sanatoria will benefit a few individuals, and its educational value to the general public is great, yet more could be accomplished by establishing open-air schools for children, and he gives examples and results of experimental schools of this sort established at various places in Europe.

The book deals with the physics and chemistry of the air and atmosphere, respiration and its physiology, air pressure, temperature, humidity, solar radiation, radioactivity, electricity and air, etc., and then takes up impure air, smoke, fog, gases in mines, sewer air, dust and germs, ventilation, breathing, artificial atmospheres, climate, and, briefly, open-air treatment of "consumption." The author in a sensible way explodes many of the theories of physical-culture faddists and others regarding the development of the chest breathing exercises, and shows that a big chest is not necessarily an indication of vital capacity, and that oxygen intake depends on the activity of metabolism. In a study of the various substances polluting the air, he cannot make a strong showing against any one of them, but affirmatively he emphasizes the salutary effects of fresh, pure air, and therefore makes a strong plea for the open window and open-air life. The chapter on climate is interesting, but only the higher Alps, the sea and Africa are mentioned, as might be expected from a British author; Colorado and California are mentioned only incidentally in a quotation.

Much of the statistical and tabulated matter is old, and although the title-page says the book was first printed in 1909, and the author seems to be conversant with the recent work and investigations, yet the book gives one the impression of being rather ancient history. For instance, a table showing the annual death-rate in London from phthisis dates back to 1898.

Ophthalmic Surgery. A Treatise on Surgical Operations Pertaining to the Eye and its Appendages with Chapters on Para-Operative Technic and Management of Instruments. By Charles H. Beard, M.D., Surgeon to the Illinois Charitable Eye and Ear Infirmary. Cloth. Pp. 674, with 9 plates and 300 other illustrations. Price, $5. Philadelphia: P. Blakiston's Son & Co., 1910.

This book is the fruit of twenty-six years of study and work in hospitals, dispensaries and private practice. The chapters dealing with the subject of preparation for the operation, including the preparation of surgeons, assistants, patient, instruments, dressings, etc., and the selection and care of instruments are particularly valuable, especially to younger practitioners of ophthalmology. The consideration of operative procedures is made interesting and instructive by a concise and clear account of the history of such operations, showing how in many instances there has been gradually evolved that measure which, in the judgment of the author, is the best.

The careful description of the technic is commendable, and the liberal and excellent photogravure illustrations add greatly to the practical descriptive matter. Special mention should be made of the chapter on plastic operations on the eyelids and of that on cataract extraction. The author's experience in the treatment of deformities of the lids as surgeon to the Illinois Eye and Ear Infirmary, enables him to speak with authority on this difficult subject. The various methods that have been proposed for the correction of entropion and ectropion are well described. The chapter on "Extraction of Cataract" receives added value from a recital of the accidents and complications that may occur in the course of the operation and the preventives and remedies that apply to them.

Altogether, it is one of the best books on the subject in the English language, and is especially valuable in that it reflects so well the practice of modern American ophthalmic surgery.

Diagnostic Methods, Chemical, Bacteriologic and Microscopic. By Ralph W. Webster, M.D., Ph.D., Assistant Professor of Pharmacologic Therapeutics and Instructor in Medicine in Rush Medical College, University of Chicago. Cloth. Pp. 611, with 211 illustrations. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co., 1909.

The author has succeeded in giving a practical exposition of laboratory diagnostic methods, including many which are not ordinarily found in such books, as for instance, the methods of examining the secretions of the nose and conjunctiva. The section of the blood is especially complete. Along with the methods described, the author has endeavored --and successfully--to present sufficient physiologic and clinical facts to enable just conclusions as to the value and bearing of the various methods on diagnosis; and in some places he has not hesitated to express his very decided opinion of the unavailability of some modern methods, especially, for instance, the methods of determination of the functional capacity of the kidney. Cryoscopy, electric conductivity, and the methylene blue tests are unhesitatingly condemned. Webster regards the phloridzin test as the best one advanced which can in any way aid the diagnosis. He concludes that for the medical man these tests are rarely of value; but admits their utility for the surgeon. We are glad to see emphasis laid on the necessity of control of the diet in order to make quantitative determinations of urea valuable. The book is finely illustrated, to a large extent by original drawings, and a large number of illustrations are presented as colored plates. The book will be highly appreciated by those who desire a guide to the most recent methods of diagnosis, and can be commended especially on account of the accuracy and clearness of the description of these various methods.

Umwelt und Innenwelt der Tiere. Von J. von Uexküll, Dr. med. hon. c. Paper. Pp. 259. Berlin: Verlag von Julius Springer, 1909.

This book is a review of the physiology of the invertebrates. It is written by one of the Heidelberg group of neo-vitalists and is interesting as showing how the life processes of these animals look from their standpoint. Besides his own observations, the author gives a review of the literature, defining the position of the various writers in reference to his own conceptions. The nervous system is especially considered, and the relation of the animal to its environment is studied in each form. This makes the work especially valuable to psychologists and neurologists.

Vitalistic conceptions are discussed at length, the author believing that some vital force, neither physical nor chemical in nature, is an important factor in every biologic process. The work of biologists in the past is destructively criticized because they did not consider vitalism *more* and physics and chemistry less.

The book is attractively written, and those who are interested in the subject and who read German, will find in it much to provoke serious and thoughtful *consideration*, even though they may not be in sympathy with some of the iconoclastic speculations.

Index du Progrès Médical, 37e Année, 1909-1910. Cloth. Pp. 1016. Paris: Progrès Médical, 41 rue des Ecoles.

This is an expansion of the annual students' and practitioners' number of the *Progrés Médical*, and contains a variety of statistics and useful information. The first part consists of a collection of laws governing the French universities, the outlines of the organizations of the educational and affiliated institutions in Paris, including the University of Paris, the Sorbonne, the military and naval medical schools, the hospitals and clinics, the schools for nurses, the insane asylums, the schools for backward children, the private courses of medical instruction, medical and scientific societies, the dental and veterinary schools in Paris; the second part covers the same subjects for the provinces and colonies, and in addition gives the names of the principal French medical journals. The third gives a verified official list of French physicians. The fourth part gives a list of the principal medical schools throughout the world, with their faculties, and considerable other information. The fifth part contains a compendium of legislation and administrative orders bearing on the medical profession in France.

A Text-Book of Medical Treatment. (Alphabetically arranged.) By William Calwell, M.A., M.D., Physician, Royal Victoria Hospital, Belfast. Cloth. Pp. 630. Price, $4.50. New York: Longmans, Green & Co., 1910.

This book, the author tells us, is the *offspring* of twenty years' experience in teaching the principles as well as the application of modern therapeutical knowledge. The work has been done with the aid of a number of collaborators. The arrangement is alphabetic, and includes the ordinary scope of internal medicine and the diseases of the skin. The treatment includes hygienic, dietetic and physical measures, as well as drugs.

# Medicolegal

## A Sponge Case in the Federal Courts

The United States Circuit Court of Appeals, Eighth Circuit, says that the case of Ruth vs. Johnson (172 Fed. R., 191) was brought by the latter party to recover damages which he claimed he suffered by reason of the negligent performance of an operation on him for appendicitis, the act of negligence specified being that the defendant unskillfully, negligently, and inattentively permitted a sponge or pad of gauze to remain in the abdominal cavity after the sewing up of the wound.

The operation was performed March 30. When the defendant opened the abdomen, he found extensive adhesions caused by frequent recurrences of the attacks of appendicitis. He immediately placed pads of gauze in the opening to wall off the infected area. The appendix was then brought up, the cecum with it, and as the appendix was brought up the sack ruptured, and the defendant called to his assistant to get a pad quick. The assistant got the pad, and the defendant called for another. Another pad was gotten and placed in the body. The defendant did not remember how many pads he put into the abdomen. The case was one known to surgery as a pus case. When the defendant had finished the operation, the sponges or pads of gauze that were removed were dropped into a tub. A stab drain was put in so as to give a direct outlet from the cavity.

About two weeks after the operation a lump formed at the lower end of the main incision, and kept getting larger until it was about the size of a hen's egg. The defendant, on examination, decided that it was an abscess, and treated it as such by opening it and putting in a tube. He also instructed the plaintiff's home physician to treat it as an abscess, after he left the hospital, May 2, and it was treated, as also the stab wound, with pieces of gauze one-fourth of an inch wide and four or five inches in length, although sometimes the pieces of gauze were eight or ten inches long, but narrow. But the condition of the patient kept getting worse, until July 7, when another surgeon, assisted by the attending physician, opened the abdominal cavity by cutting down so that the end of the incision that was made united with the lower end of the original incision made by the defendant. The surgeon introduced his finger and could feel gauze. He then put in his forceps and pulled out the gauze in question, of which 2½ or 3 inches had penetrated the ascending colon. On January 1 the wound had healed.

The evidence further tended to show that the size of the piece of gauze taken out was 9½ by 11½ inches. That the pads used at the time of the operation by the defendant were from eight to ten inches square. That with free open drainage such as existed in this case the gauze could have remained in the abdominal cavity without any further disturbance than did actually occur. That the gauze pad had been in the abdominal cavity from 90 to 100 days. That, after the plaintiff went home, there never was at any time prior to the operation last mentioned an opening in his abdomen large enough to have permitted the introduction of the pad of gauze removed therefrom. That the presence of the gauze in the abdominal cavity was the cause of his illness subsequent to the operation for appendicitis.

There was also evidence tending to show that all of the pads of gauze that were placed in the abdominal cavity of the plaintiff at the time of the operation for appendicitis were removed, but no witness had any actual knowledge as to whether they were or not. The defendant testified himself that he did not know how many pads were placed in the abdominal cavity, and the nurses who seemed to have charge of furnishing the pads or sponges at the hospital could only testify that the pads were removed by reason of the fact that they were always removed in every case. No witness had a distinct recollection of what was actually done in this particular case with reference to removing the gauze pads.

It thus appeared that when all the evidence was in there was one question for the jury, and that was, Did the defendant sew up the wound after his operation on the plaintiff and allow a pad of gauze 9½ by 11½ inches to remain in the abdominal cavity? This was the only question left to the jury by the court; it being conceded that, if the defendant did do this, he was guilty of negligence. The jury found the issue submitted to them in favor of the plaintiff and against the defendant, and no court would be authorized to say that there was not sufficient evidence to support their finding.

Then it was assigned as error to allow three physicians to answer hypothetical questions in the following language: "Assuming that an operation was performed for appendicitis, and the main incision was closed up and a stab wound made with a drainage tube in it, and a pad of gauze 9½ by 11½ inches was sewed up in the wound and remained there for a period of about 98 days, state whether or not to leave it there that length of time would be the exercise of ordinary care, skill and attention on the part of the surgeon in charge of the operation." But even if the questions in the form they were put were for the jury and not for the witnesses, which the court does not stop to determine, the court is constrained to hold their allowance was not prejudicial error for the reason that there could be no contention, and counsel for the defendant made none, that the placing of the gauze pad in the abdominal cavity of the plaintiff and leaving the same there after the operation for appendicitis would not be an act of negligence. The only question over which there was a contest in the trial of the case, and the only question submitted to the jury for decision, was as to when and where and by whom the gauze was put into the cavity and allowed to remain.

Wherefore, a judgment for the plaintiff (amount not stated) is affirmed.

## Validity of Statute and Grounds for Refusal of Verification License

The Court of Civil Appeals of Texas says that the case of Morse vs. State Board of Medical Examiners (122 S. W. R., 446) was brought by said Morse to compel the board to issue to him a verification license to practice medicine. The defense was that he had been guilty of grossly unprofessional or dishonorable conduct, of a character likely to deceive and defraud the public, section 11 of the medical practice act of April 17, 1907, being relied on to support the position taken. This section provides that the board may refuse to issue the certificate provided for in case of the presentation of a license, certificate or diploma illegally or fraudulently obtained, or when fraud or deception has been practiced in passing the examination; for conviction of a crime of the grade of a felony, or one which involves moral turpitude, or procuring or aiding or abetting the procuring of a criminal abortion; or for "other grossly unprofessional or dishonorable conduct of a character likely to deceive or defraud the public," etc.

It was contended that this last clause was too general and uncertain, and that it should therefore be disregarded and the statute administered as though the clause were eliminated therefrom, but the court does not think the statute subject to the objection urged against it, and affirms a judgment for the board.

An important distinction, the court says, exists between granting a license and revoking a license, which distinction may justify the application of different rules of law. Many courts hold that the cancelation or revocation of a license to practice medicine constitutes a penalty; but such result does not follow from a refusal to grant such license. A license to practice medicine is a privilege or franchise granted by the government, and a refusal to grant such franchise, whatever the reason may be for such refusal, does not constitute a penalty.

The particular clause of the statute assailed in this case not only requires proof of unprofessional or dishonorable conduct, but it must be other grossly unprofessional or dishonorable conduct of a character likely to deceive or defraud the public. It is not unreasonable to conclude that, by the use of the word "other," the Legislature intended that the conduct referred to should be similar in its nature to that designated in the preceding subdivision of that section and defined as "a crime of the grade of a felony, or one which involves moral turpitude, or procuring or aiding or abetting the procuring of a criminal abortion." Not only that, but such conduct is further qualified by the use of the word "grossly." Furthermore, such conduct must not only be grossly unprofessional or dishonorable, but it must be of a character likely to deceive or defraud the public. It has been held, in construing a similar statute, that the language "unprofessional or dishonorable" was not intended to describe two classes of conduct, and that the word "unprofessional" was used in the same sense as "dishonorable," and not as signifying "unethical." State vs. State Medical Examining Board, 32 Minn., 324.

Nearly if not all the states have statutes requiring applicants for license to practice either medicine or law to present satisfactory evidence of good moral character and this court knows of no case in which it has even been held that such a statute was invalid because of uncertainty. It would seem that statutes of the latter class afford as much room for difference of opinion as does the statute under consideration in this case.

### Legal Effects of Neglect to Observe Directions of Physicians

The Supreme Court of Arkansas says that the case of Maryland Casualty Co. vs. Chew (122 S. W. R., 642), as it is now entitled, was brought by the latter party to recover indemnity on a policy of accident insurance. One of the defenses was that the plaintiff did not use due diligence to secure the recovery of his injured arm. It has been held in cases of personal injury that no damages should be allowed the injured party for any impairment of health or physical condition occasioned by his neglect to observe the directions of his physician. On the same principle, no indemnity should be allowed to an insured in actions like this on account of an extension of the injury where such extension is occasioned by his neglect to observe such directions. But the failure of the plaintiff to observe reasonable care in following the advice of his physician could not affect the defendant unless it increased the indemnity and the defendant would have no right to complain.

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# *Current Medical Literature*

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### New York Medical Journal

*February 26*

1 *Management of Glycosuria in Elderly Persons. V. C. Vaughan, Ann Arbor.
2 Case of Pellagra. H. Fox, New York.
3 Chronic Joint Diseases. J. M. [illegible]
4 Visceral Angioneurosis. S. S. [illegible]
5 Inflammatory and Suppurative [illegible] opharynx of Infants. E. M. Sill, New York.
6 *Osteomyelitis. J. E. Moore, Minneapolis.
7 Bier's Hyperemic Treatment in Surgery. E. Adams, New York.
8 An Hereditary Chart. J. F. Munson, Sonyea, N. Y.
9 Certain Lumbar Punctures at Bloomingdale Hospital. G. S. Amsden, White Plains, New York.

1. **Glycosuria in Elderly Persons.**—The glycosuria of elderly life is due, in many instances at least, to excessive carbohydrate feeding; this excess is usually confined to some special carbohydrates, sugar and wheat starch; the early glycosuric of this class is often easily able to care for other carbohydrate foods; the harmful carbohydrates should be detected and eliminated from the food; those that can be assimilated should be determined and permitted; there is a specificity in the metabolism of carbohydrates as there is in that of proteins; the presence of a small amount (from 0.5 to 2 per cent.) of sugar in the urine should not be regarded as a matter of trivial importance. In many persons the capacity for assimilating carbohydrates is largely determined by the time of day when the food is taken. Glycosurics who cannot metabolize carbohydrates when taken for breakfast, may dispose of one hundred grams of bread taken at a 6 o'clock dinner. Why this is true, Vaughan cannot say, unless it is due to the more hurried way in which many things, both foods and medicines, pass through the body when taken in the morning.

The third point is the value of the open-air treatment of this form of glycosuria. In a general way it is stated by most authorities on diabetes that life in the open air is beneficial, but Vaughan does not think that this has been sufficiently emphasized. He thinks that porch sleeping is quite as beneficial to the glycosuric as to the tuberculous.

6. Abstracted in THE JOURNAL, Feb. 19, 1910, p. 648.

### Boston Medical and Surgical Journal

*February 24*

10 The Mother and the Child in the Tuberculosis Problem. E. O. Otis, Boston.
11 Jaundice in New-Born Infants. J. L. Morse, Boston.
12 *Scarlet Fever Prophylaxis with Streptococcus Vaccine. R. M. Smith, Boston.
13 Alcoholic Cirrhosis of Liver in a Boy of Four Years. D. N. Blakely, Boston.
14 Stray Thoughts on History of Medicine. J. E. Donley, Providence, R. I.
15 Why the "Optometry" Legislation should not Pass. G. S. Derby and R. S. Loring, Boston.

12. **Scarlet Fever Prophylaxis with Streptococcus Vaccine.**—The reasonableness of the use of streptococcus vaccine in scarlet fever would seem to be dependent on the acceptance of the streptococcus as the cause of scarlet fever. The results obtained are believed by many to establish the primary rôle of the streptococcus in scarlet fever. The only cases in which the vaccines are withheld are (1) in patients having a high temperature, and recently, since the conviction that no harm is done has been established even these have received doses without evident untoward results; (2) in very young infants or patients who, from some cause or other, are greatly exhausted; and (3) in those having nephritis. Smith urges that vaccines should be given a wider application in this country to prove or disprove the contentions of the Russian physicians who have used them extensively.

### Medical Record, New York

*February 26*

16 *Modern Views of Heredity: Study of a Frequently Inherited Psychosis. C. L. Dana, New York.
17 Traumatic Affections of the Knee-Joint. R. Hazen, Brentwood, L. I.
18 The Wassermann Reaction. D. E. Hoag, New York.
19 *Tuberculosis with Periodical Hemorrhages from the Bowel. D. I. Macht, Baltimore.
20 *Treatment of Carcinoma with Body Fluids of a Recovered Patient. E. Hodenpyl, New York.
21 Ophthalmic Instrument Case, Sterilizer and Tray Combined. M. Talmey, New York.
22 Letters to a Neurologist (continued). J. Collins, New York.

16. **Modern Views of Heredity.**—Dana says that the teachings of advanced investigators show that in improving and educating poor stock, including defectives and retarded minds, education is of little value and does not affect racial progress. Mendel's law applied to human nature will show that a mixture of races having distinctly different characters produces a hybrid stock which never altogether breeds pure. Mixed races which have opposite character units will not produce a new, pure type unless we segregate the impure and hybrid three-quarters. A helpful indication from Mendel's law is that by the third generation the breed is pure in certain strains. With a family psychosis a pure record of three generations in direct line will remove all liability to the psychosis.

19. **Tuberculosis with Hemorrhages from Bowel.**—Macht asserts that women who have tuberculosis are unfavorably affected by the occurrence of the menstrual period, having fever and pains at that time, with increased cough, and more marked physical signs. They also have vicarious hemorrhages from the lungs. He describes a case in which hemorrhages from the bowels occurred at each menstrual period, which he ascribes to the bleeding of tuberculous ulcerations of the bowel at the time of the menstrual pelvic congestion.

20. **Carcinoma and Body Fluids.**—About 4 years ago, Hodenpyl became interested in a case of carcinoma of the breast in a

woman then 37 years of age. The clinical history and the morphology of the tumor were typical of a rapidly growing malignant cancer. In spite of radical operation, multiple recurrences appeared in the neck and in the primary scar. After the thorough removal of these, secondary growths appeared which were morphologically typical of rapidly growing carcinoma. Still other tumors developed in the neck and breast, which, owing to local complications, and the debilitated condition of the patient, were not removed. Later large tumors developed in the liver, which nearly filled the abdominal cavity followed by the occurrence of excessive chyliform ascites. The prognosis was unqualifiably bad and the patient's death seemed imminent.

But nevertheless, the tumors in the neck and breast gradually dwindled and disappeared. The abdominal tumors gradually grew smaller and became imperceptible, while the liver became smoother and smaller. About four years after the first operation the liver is approximately normal in size and position. With the exception of the scars and decreasing emaciation, and extreme chyliform ascites, requiring frequent tapping, there is now no indication of the original disorder. The ascitic fluid was placed at Hodenpyl's disposal. To test theoretical conceptions, a series of mice, which had developed tumors after implantation of some of the well-known strains of mouse cancer cells, were injected with varying amounts of the ascitic fluid. These injections were made near the tumors, into the tumors, and into the body at large. The effect of these injections was to lead to marked necrosis of the tumors, to a noteworthy diminution in their size, or to their complete disappearance.

After experimental tests of the harmlessness of the fluid, first in animals, then in human beings, injections of the fluid in cases of carcinoma of various types in man were undertaken. These injections have been made in small quantities, near or directly into the tumors, or in large quantities into the veins. The general effects of these injections in man has been nearly uniformly to induce a temporary local redness, tenderness, and swelling about the tumors, which soon subside. Then occur softening and necrosis of the tumor tissue, which is now absorbed or discharged externally, with the subsequent formation of more or less connective tissue. In all cases, the tumors have grown smaller; in some they have disappeared altogether. In no instance has any tissue in the body other than the tumor, shown the least reaction after the injections, nor have any systemic effects been manifest even after large venous infusions. The author promises a full report later.

### Lancet-Clinic, Cincinnati

*February 19*

23 Venereal Diseases: Their Antepartum, Partum and Postpartum Effects. E. J. Kehoe, Cincinnati.
24 Hirschsprung's Disease. E. W. Walker, Cincinnati.
25 X-Ray Study of 25 Cases of Aortic Aneurisms. S. Lange, Cincinnati.

### Virginia Medical Semi-Monthly, Richmond

*February 11*

26 Actinomycosis: Two Cases from Virginia. H. B. Stone, University.
27 A Bureau of Health. J. G. B. Bulloch, Washington, D. C.
28 Infantile Hypertrophic Pyloric Stenosis. M. Newton, Richmond.
29 Enlarged Prostate—Two Specimens Removed Suprapubically. G. S. Peterkin, Seattle, Wash.
30 Hygiene and Prophylaxis of Typhoid. R. Mason, The Plains.
31 Technic and Treatment of Certain Dermal Diseases and Deformities with Carbon Dioxid. C. A. Simpson, Washington, D. C.
32 [illegible] Treatment of Typhoid. Z. V. Sherrill, Marion.
33 [illegible] nd Treatment of Pulmonary Tuberculosis. [illegible], Catawba.

### Journal of the Minnesota State Medical Association and Northwestern Lancet, Minneapolis

*February 15*

34 Excision of the Head of the Radius. A. E. Wilcox, Minneapolis.
35 Diagnosis and Pasteur Preventive Treatment of Rabies. O. McDaniel, Minneapolis.
36 Rabies. C. E. Cotton, Minneapolis.

### Kentucky Medical Journal, Bowling Green

*February 1*

37 The State Journal and the State Medical Society. J. M. Peck, Arlington.
38 *What more can our Profession do to Decrease the Spread of Tuberculosis? J. Glahn, Owensboro.
39 *Diagnosis of Incipient Tuberculosis. O. W. Rash, Owensboro.
40 *Dangers of Animal Tuberculosis to the Public Health. F. T. Eisenman, Louisville.
41 Perineorrhaphy. L. Bloch, Louisville.
42 *Management of Burns. C. G. Garr, Lexington.
43 *Diagnosis, Prognosis, Pathology and Treatment of Compound Fractures. J. G. Carpenter, Stanford.
44 Treatment of Compound Fractures. W. L. Mosby, Bardwell.

38, 39, 40, 42, 43. Abstracted in The Journal, Nov. 27, 1909, pp. 1854, 1855.

### Archives of Internal Medicine, Chicago

*February*

45 *Effect of Digitalis on the Ventricular Rate in Man. A. W. Hewlett, Ann Arbor, Mich., and T. B. Barringer, New York.
46 Emphysematous Gangrene Due to a Member of the Colon Group. R. G. Owen, Iowa City, Iowa.
47 Experimental Study of the Antitryptic Activity of Human Serum. R. Weil, New York.
48 *Cases of Low Temperature. J. F. Munson, Sonyea, N. Y.
49 Problems of Experimental Nephritis. R. M. Pearce, New York.
50 The Presphygmic Period of the Heart. G. C. Robinson and G. Draper, Philadelphia.

**45. Effect of Digitalis on Ventricular Rate in Man.**—Of the various cardiac irregularities produced experimentally by digitalis, the earliest to appear in most instances is an occasional omission of ventricular contractions, owing to an interruption of the stimulus between the auricles and ventricles. Somewhat later, or even immediately after this, the heart may assume a most peculiar rhythm in which the auricles and ventricles are beating quite independently of each other. This irregularity differs from the ordinary rhythm of complete heart-block in that the ventricular rate is not slow, but approaches and usually exceeds the auricular rate; so that, for example, one may count 16 ventricular to 15 auricular contractions. This rhythm is common in carefully graded digitalis poisoning in dogs, but this form of irregularity has never been described in man.

Hewlett and Barringer report such a case. The heart was distinctly enlarged. There was a soft systolic murmur at the apex transmitted to the axilla and back. The second pulmonic sound was accentuated. The pulse was weak, of small volume, and occasionally irregular. The man had a slight but continuous fever and showed a mild anemia. Blood cultures were negative. The venous tracings taken one day before the patient died were remarkable in that they showed a regularly recurring cycle of changes. Each cycle required about seven seconds for its completion, and included about 14 ventricular contractions. At certain portions of the cycle, a single, sharp, positive wave occurred in the jugular pulse just after the onset of ventricular systole. Midway between these groups of sharp waves, each ventricular systole was represented on the venous pulse by two waves of almost equal height connected by a more or less distinct plateau. The authors regard it as evident from the duration of these cycles (seven seconds) that they were independent of the respiration, for the respiratory rate was constantly about 30 a minute.

On inquiry it was found that the patient had been taking drugs of the digitalis series in considerable quantities over a long period of time. During all this time his heart failure was gradually becoming worse. Although the daily amount of digitalis and its allies did not seem excessive, nevertheless in view of the fact that the type of arrhythmia corresponded to that seen in experimental digitalis poisoning, it seems probable to the authors that the irregularity was due to a cumulative action of the drug. If this be true, it illustrates how difficult it may be to ascertain when enough digitalis has been given, for at no time was marked slowing of the pulse observed. This peculiar irregularity is believed by them to be due to the action of the digitalis in increasing the spontaneous ventricular rate.

**48. Low Temperature.**—Munson reports 18 cases in which the temperature ranged below 92 F.; in some instances falling as low as 73, 76, 78 and 79 F. He says that the possibility of any error was eliminated entirely. The majority of the patients were of low mental grade, and some infectious condition was present in almost all. Pneumonia, tuberculosis, erysipelas and pyelonephritis were among those noted, together with acute abdominal conditions. Chronic conditions lowering the vitality of the patient were often present. The low temperature was usually agonal or preagonal.

### Ophthalmology, Seattle, Wash

*January*

51 Heterophoria and Heterothropia in Duction and Version. E. Lauder, Cleveland.
52 Size and Position of the Angle Alpha by a Simple Modification of the Javal-Schlötz Ophthalmometer. L. Howe, Buffalo.
53 Mixed Astigmatism with Meridians of Astigmatism not Crossing at Right Angles. W. L. Pannell, New York.
54 A Pocket Ophthalmoscope. J. H. Claiborne, New York.
55 A New Skiascope. C. T. Cooke, Seattle.
56 Temporary Monocular Amblyopia Possibly Due to Embolus in the Optic Nerve. H. F. Hansell, Philadelphia.
57 Sympathetic Ophthalmitis. D. Roy, Atlanta, Ga.
58 Visible Movement of Blood in Retinal Vessels. C. S. G. Nagel, San Francisco.
59 Massage as an Occupation for the Blind. L. W. Fox, Philadelphia.
60 Conjunctival and other Reaction Tests to Tuberculin in Tuberculosis of the Eyeball and Its Adnexa. C. A. Oliver, Philadelphia.
61 Tuberculin Treatment of the Eye. Dr. Junius, Cologne, Germany.
62 Injury to the Eye from the Presence of Anilin Pencil in the Conjunctival Cul-de-Sac. A. C. Snell, Rochester, N. Y.
63 Transfixion of Cornea by Hatpin Without Injury to Lens. A. G. Bennett, Buffalo.
64 Increased Intraocular Tension in Cases of Epidemic Dropsy. F. P. Maynard, Calcutta, India.

### Journal of the Indiana State Medical Association, Fort Wayne

*January*

65 *Facts Concerning Diphtheria Revealed by Laboratory Examinations. J. P. Simonds, Indianapolis.
66 *Umbilical Hernia Containing all the Abdominal Viscera. J. R. Eastman, Indianapolis.
67 Sketches of the Medical History of Indiana (continued). G. W. H. Kemper, Muncie.
68 Chronic Non-Tuberculous Arthritis. J. Y. Reed, Indianapolis.
69 Tumors of the Tongue. L. D. Brose, Evansville.
70 Cesarean Section as a Means of Rapid Delivery in Eclampsia. W. Schell, Terre Haute.

65. **Diphtheria.**—Since diphtheria is vastly more prevalent during the school months, and since school children, who so frequently have chronically diseased throats, may easily become diphtheria bacillus-carriers, Simonds urges systematic school inspection with subsequent proper treatment of pathologic throat conditions. The fact that a large number of cases diagnosed "not diphtheria" clinically prove positive on bacteriologic examination, and *vice versa*, demonstrates the importance of taking cultures from every sore throat, regardless of the age of the patient or the severity of the symptoms. It is likewise important in combating the spread of this disease to take cultures from the throats of every person who has come in contact with a case of diphtheria. All persons whose throat cultures contain diphtheria bacilli, whether suffering from any symptoms of the disease or not, should be placed in quarantine and kept there until at least one culture or, better, two consecutive cultures, show that these bacilli have disappeared. The administration of antitoxin has little or nothing to do with the disappearance of diphtheria bacilli from the throat. Simonds believes that an arbitrary time limit of quarantine in diphtheria is not justifiable. Release from quarantine should be governed entirely by the results of bacteriologic examination of subsequent cultures from the throat of the patient.

66. **Umbilical Hernia Containing all the Abdominal Viscera.**—The sac in Eastman's case had but one coat—a peritoneal coat—which, though somewhat thickened, was quite transparent, making it possible to determine with considerable precision the contents from without. Two days after the birth of the infant, a fruitless attempt was made to return the contents of the sac to the abdominal cavity. It was found that the extruding organs were for the most part firmly adherent to each other and replacement was impossible. The abdominal cavity was very much smaller than the sac. The extrusion having taken place, no doubt, two or three months before birth, the abdominal cavity therefore failed to develop to its normal relative capacity. An autopsy was not permitted. In the sac were the liver, gall-bladder, spleen, pancreas, stomach, most of the large and small intestines, and the bladder. The child was a female. The extruding sac was round and measured approximately 17.5 centimeters in diameter. The child died on the fifth day.

### Maryland Medical Journal, Baltimore

*February*

71 Value of the Proctoscope. J. D. Reeder, Baltimore.
72 Acute Alcoholic Poisoning in Children. E. Anderson, Rockville, Md.
73 Stahl, Hoffman, Boerhaave, Haller, Cullen and Brown. H. M. Cohen, Baltimore.
74 *Septic Heart Pause. A. K. Bond, Baltimore.

74. **Septic Heart Pause.**—Bond's patient has not a slow heart; he has a definite heart-pause of about 15 seconds, with beats at normal intervals when they did occur. He has for many years had an old aortic stenotic murmur of unknown origin, which ordinarily produces no disease distress whatever. The patient is married and has children. He has never contracted venereal diseases; he uses neither alcohol, coffee nor tobacco.

The first time Bond saw him was in May, 1906, during convalescence from an alarming attack of heart disturbance, following overstrain. It came on suddenly during great muscular exertion, following a heavy meal. His family physician said that the patient's pulse had been down to the neighborhood of 27 beats a minute, with intermissions sometimes of 10 seconds, and thought he had rescued him from death by the use of heart stimulants. The bowels had moved well under purges. The patient was eating, digesting, and sleeping well. There was flatulence; the urine showed no albumin. The apex beat at that time was normal, with no sign of hypertrophy or dilatation; a soft but distinct systolic murmur was heard all down the sternum and up the length of the carotids, with about equal intensity; all the valves closed normally. Several attacks had occurred in recent years, always after exertion on a full meal, during one of which Osler saw him and was said to have considered it acute heart-strain on a chronic valve lesion. After each of these attacks the man came back into full health. Bond believes that these attacks were due to intestinal sepsis.

### Bulletin Johns Hopkins Hospital, Baltimore

*February*

75 *Cases of Purpura Hemorrhagica Due to Benzol Poisoning. L. [illegible]
76 *[illegible] R. S. Morris, Baltimore.
77 Excretion of Creatinin in the Infant: Its Occurrence in Amniotic Fluid. S. Amberg and L. G. Rowntree, Baltimore.
78 *Method of [illegible] afts. J. S. Davis, Baltimore.
79 *Practical [illegible] the Normal and Abnormal Heart Sounds [illegible] Larned, Baltimore.

75. **Purpura Hemorrhagica Due to Benzol Poisoning.**—The three cases reported by Selling occurred at a factory for the manufacture of tin cans, in the suburbs of Baltimore, and were confined to one department, the so-called "coating room." The only essential difference in the processes as carried on here and in the rest of the factory consisted in the use of a substitute for solder; a mixture composed of pure rubber, a rosin, and a coloring matter, dissolved in commercial benzol. Twenty-three people were employed in the coating room; 5 men as machinists, 4 girls as inspectors, and 14 girls between the ages of 14 and 16 at the coating machines themselves. It is among these last that most of the cases, and all of the serious ones, occurred. Ten gallons of benzol a day were used and allowed to evaporate in this room. In spite of the wide-open windows and excellent ventilation—the cases occurred in summer—the space immediately about the coating machines was pervaded by a well-marked odor of benzol, while the same odor, much weaker, was noticeable throughout the room. Two of the patients died. An examination of the other employees working in the coating room was undertaken, and 4 were found, 2 men and 2 girls, who showed a few purpuric spots. They were entirely free from symptoms. Their blood showed a slight grade of anemia and a leucocyte count varying from 3900 to 5200 per cmm., that is, either subnormal or on the lower limits of normal.

76. **Anerythremic Erythremia.**—During the last two years Morris has had under observation two patients whose histories were somewhat similar, and further similarity was strikingly present in their physical conditions. Without a blood count, the diagnosis of erythremia was immediately suggested. But this could not be definitely established. In neither case could a history of malaria or syphilis be obtained to account for a splenic tumor; a splenic anemia did not exist, nor was there

any evidence of amyloid disease. The blood examination excluded leucemia, and there were no grounds on which to base a diagnosis of Hodgkins disease. There was no valvular disease of the heart, and no pulmonary emphysema to account for the cyanosis present. Sulph-hemoglobinemia and methemoglobinemia were thought of as possible explanations of the cyanosis. The latter is not uncommon in these cases, but differs in that it resembles more the ashen hue of argyria, as contrasted with the plethoric cyanosis of erythremia. Splenic tumor was found in both patients. Furthermore, repeated spectroscopic examination in the other revealed only the bands of oxyhemoglobin, even in concentrated solution, thus excluding sulph-hemoglobinemia and methemoglobinemia. With a negative tuberculin test in Case 1, confirming the physical findings, it is reasonably certain that an active tuberculous process is not the base of the patient's condition. Morris says that were it not for the normal blood counts, both of the cases reported above would be characteristic examples of erythremia.

78. ***Splinting Skin Grafts.***—There are many partial "takes" and failures for the reason that grafts are not properly splinted after they are applied, and in consequence slip down with the dressings, or are floated off by blood or serum collecting beneath them. In order to overcome this difficulty it is necessary to reinforce the grafts with some material which has enough body to act as a splint, and at the same time is not too rigid to shape itself readily to any desired location. It is also very important that it should not adhere to the grafts and granulations, or cause too much pressure, and that there be free escape of any secretions into the dressings.

After experimenting with various materials, Davis tried a coarse, meshed net, such as is used for curtains. It is made of loosely woven flat bars of cotton thread, surrounding openings about 1 cm. in diameter. It is necessary to have the openings approximately this size as smaller ones often become clogged. This proved too flimsy, and also became adherent to the grafts. So in order to increase the body of the fabric, after washing out the sizing and drying, he soaked the material in a rubber solution made up of pure gutta-percha, from 15 to 30 parts (depending on the stiffness of material required), and chloroform 150 parts and found that after the chloroform had evaporated and the material was dry there was enough stiffness to give a very satisfactory splinting material. When prepared the net should be of a slight grayish-brown color throughout.

The sterilization before application is as follows: Cut in pieces as large as may be desired and separate them with one or two thicknesses of gauze. Place in a sterile jar, and fill it with 1 to 1,000 bichlorid of mercury solution. Change this solution three times with twelve-hour intervals, and finally allow the mesh to remain permanently in 1 to 1,000 bichlorid solution. It can be kept for a considerable time in this way, although it is better to make up small quantities and often. The dry permeated material will keep indefinitely. No hot solution must come in contact with the mesh during the sterilization or application. After the grafts are in place the mesh is taken out of the bichlorid solution and thoroughly rinsed with salt solution, then dried with a sterile towel. A piece is cut large enough to allow a margin around the grafted area of from 5 to 10 cm. Then the material is applied and pressed snugly down on the grafted area and surrounding skin or granulations. Should the conformation of the part or wound not permit the mesh to be evenly applied, a few cuts with scissors will allow an infolding and accurate fitting, which is necessary in order that the splinting may be successful. The operlapping edges may be secured to the skin by strips of adhesive plaster when necessary. After the net is in position the dressing selected is applied, and the whole secured by a bandage. When the overlapping material rests on granulation tissue, it will be found that it can be lifted up at any time without causing pain or bleeding, as the granulations do not adhere to or grow into the parts of the impregnated material. With this mesh in place the grafts can be observed from time to time with little or no danger of displacing them.

79. **Imitating Heart Sounds.**—Four methods are described by Larned of producing outside the body tones which, when conveyed to the ear, represent with a reasonable degree of exactness, at least in force and rhythm, the sounds heard through the stethoscope placed on the patient's chest. In all instances the sounds are produced by taps, strokes, and what Larned terms tap-strokes and stroke-taps, on the conductor employed.

*Method 1.*—The left forearm is used as a conductor, the left hand being closely applied over the left ear, the taps and strokes being made on the elbow. *Method 2.*—This is the same, except that the taps and strokes are made not on the elbow but on the dorsum of the hand. *Method 3.*—The stethoscope is used as the conductor, the palm of the left hand being placed over the bell and the taps and strokes made on the dorsum of the hand. *Method 4.*—The stethoscope is used as the conductor and is applied to the right side of the bared chest, the taps and strikes being made on the chest at a distance of some 2 to 4 inches from the bell. Distant and faint sounds by tapping over the ribs.

By "taps" is meant the gentle drawing of the tip of the finger over the dorsum of the ear hand, a short stroke for short murmurs, a long stroke for long murmurs, the intensity of the murmur being indicated by the force of the stroke. By tap-stroke is meant the direct merging of a tap into a stroke without any interval of time. It is made by ending the tap with a stroke before lifting the finger. By stroke-tap is meant the direct merging of a stroke into a tap without any interval of time. This can only be done by the use of two fingers, the tap occurring simultaneously with the elevation of the stroking finger.

The normal heart sounds as heard at the apex: A light but rather long tap is made for the first sound followed by a lighter and shorter tap for the second sound, care being taken to observe the proper interval between the first and second sound, and the second and first sound. Mitral insufficiency as heard at the apex—the murmur following and not replacing the first sound: A tap-stroke is made with the index finger to indicate the first sound and murmur followed by a light tap with the middle finger to indicate the normal second sound. Aortic insufficiency as heard at the base, the murmur replacing the second sound: A light tap is made with the index finger to indicate the first sound, followed by a stroke with the middle finger to indicate the diastolic murmur:

(1) Mitral stenosis; (2) mitral stenosis and insufficiency; (3) mitral stenosis and insufficiency and aortic insufficiency, all as heard at the mitral area: (1) A rapid succession of four crescendo taps is made beginning with the little finger and ending with the index finger, the last tap being sufficiently strong to indicate the shock of the first sound and immediately followed by a light tap to indicate the second sound. (2) To bring out a systolic associated with the presystolic murmur the culminating tap is converted to the presystolic rumble by a culminating tap-stroke, the stroke being lateral toward the little finger, light and short. (3) To bring out a diastolic murmur associated with the presystolic, or the presystolic and systolic make, instead of the tap which represents the second sound, a short gentle stroke, provided the murmur replaces the second sound, otherwise a tap-stroke is made, in either instance being lateral, toward the thumb. These two lateral strokes, one for the systolic, the other for the diastolic murmur, are best produced by a rocking motion at the wrist, first to the ulnar then to the radial side.

Aortic stenosis as heard at the base: A firm long scratching stroke is made with the nail of the index finger to indicate the harsh systolic murmur, followed by a very gentle tap with the middle finger to indicate the relatively faint second sound.

The pistol-shot sound heard over the arteries of the extremities in aortic insufficiency can be well imitated by a sharp tap over the knuckle of the metacarpophalangeal joint of the middle or index finger. Gallop rhythm, pendulum rhythm, reduplications, splitting of the first and second sounds, and a variety of other conditions can all be well imitated.

## Journal Delaware State Medical Society, Wilmington

*February*

80 *General Principles Underlying Modern Therapeutics.* A. Robin, Wilmington.

### Surgery, Gynecology and Obstetrics, Chicago

*February*

81 *Chronic Osteomyelitis, Diagnosis and Treatment. C. Beck, Chicago.
82 The Vesiculæ Seminales. C. E. Barnett, Fort Wayne, Ind.
83 *Use of Oil in Abdominal Surgery. D. P. D. Wilkie, Edinburgh, Scotland.
84 Floating Head and Elective Abdominal Delivery. D. Long- [illegible]
85 [illegible] J. M. Elder, Montreal.
86 * [illegible] Normally Situated Placenta. M. T. [illegible]
87 [illegible] Appendages. C. Wagner, Chicago.
88 Subcutaneous Perforation of the Intestine. F. A. Palmer, Morris, Ill.
89 Pelvic Transplantation Metastasis as a Means of Recognition of Hopeless Abdominal Carcinoma. D. W. Palmer, Cincinnati.
90 [illegible] Diverticula of Bladder. H. Fischer, New York.
91 [illegible] of the Renal Pelvis for Relief [illegible] M. Pilcher, Brooklyn.
92 [illegible] of the Clavicle. W. Hessert, Chicago.
93 *New Method of Performing Operations on the Skull. W. H Hudson, Atlanta, Ga.
94 Figure Eight Purse String in Appendectomy. F. B. Walker, Detroit.
95 Flexion of the Pelvis in the Trendelenburg Position. E. Rixford, San Francisco.
96 Saline Proctoclysis Apparatus. P. B. Magnuson, Chicago.
97 Anesthesia in Obstetric Practice. H. M. Stowe, Chicago.

81. **Chronic Osteomyelitis.**—The main object of Beck's paper is to show the necessity of correct diagnosis by systematic *x*-ray examination, and the absolute necessity of radical operation, if we want to obtain results. Diagnosis without radical operation will never result in a cure. Radical operation, on the other hand, without a correct diagnosis, will do more harm than good. For instance, if a surgeon removes three-quarters of the femur, it is radical enough. Also, if a surgeon removes the whole jaw and nine-tenths of it is normal, it is radical enough; but if he does not put in a prothesis or does not prevent the periosteum from shrinking, the case will be very disastrous. Correct diagnosis and radical operation must go together.

83. **Use of Oil in Abdominal Surgery.**—Relative to the use of sterile petrolatum oil in abdominal surgery to prevent or to limit the formation of adhesions, Wilkie carried out 6 experiments on cats and rabbits. The procedure was as follows: The animal's abdomen was opened with septic precaution, the surface of the small intestine over about 16 inches of its length was scrubbed with dry gauze and scraped with a knife till bleeding points appeared. Six weeks or two months later the abdomens of the 12 animals so treated were reopened and in all adhesions were present, though they were never very extensive. These adhesions were broken down, leaving raw surfaces. In 6 of the animals, oil was then smeared over the rawed surfaces and the abdomen closed. In the control animals the adhesions were broken down, but no oil used. The animals were opened again 4 weeks later, and it was found that in those in which oil had been used, the adhesions were very much fewer and less dense than in the controls. At the end of a month all trace of oil had disappeared from the peritoneal cavity. Wilkie found 15 days to be the longest time for oil to remain in macroscopic quantity in the peritoneal cavity in aseptic cases. He concludes, therefore, that sterile oil may be advantageously used for mopping over denuded surfaces in operations for peritoneal adhesions.

86. **Detachment of Normally Situated Placenta.**—Rupture of the membranes and leaving delivery to Nature are, in Goldstine's opinion, only justifiable when the uterus is contracting vigorously and the os is fully dilated. He says that rupture of the membranes and rapid delivery should not be done until the uterus is contracting rhythmically, the patient rallied, and the os undergone some degree of dilatation. The tampon and binder should be used when there are no contractions of the uterus, no dilatation and when the patients are in a collapsed state, and its use continued until such time as the patient and uterus have recovered. An external hemorrhage is converted into a concealed hemorrhage by the use of the tampon, if the uterine walls are incapable, directly or indirectly, of withstanding a pressure within them equal to the maternal blood pressure, and should they be distended as the result of increased intrauterine pressure, the tampon and binder will, if applied properly, render them capable of holding the pressure of the blood and so control the hemorrhage.

93. **New Method of Performing Operations on the Skull.**—The peculiarity of the instruments devised by Hudson is that they will cut as long as they need to, but will cease cutting, and cannot be further rotated, when the layer of bone in front of them becomes so thin as to give way before their advances. In other words, so long as there is resistance in the bottom of the opening they will cut; when this resistance ceases, they will not move further. Large drills, trephines and burrs have been made on this principle.

### Journal of Nervous and Mental Disease, Lancaster, Pa.

*February*

98 Pure Word Deafness with Autopsy. A. M. Barrett, Ann Arbor, Mich.
99 *Reflexes in Hysteria. P. C. Knapp, Boston.
100 Periosteal Cyst Formation: Unusual Effect of Intracranial Pressure. E. W. Taylor, Boston.

99. Abstracted in The Journal, July 31, 1909, p. 403.

### Colorado Medicine, Denver

*January*

101 Artificial Lymphocytosis as a Possible Aid in the Treatment of Tuberculosis. G. B. Webb, W. W. Williams and A. F. Basinger, Denver.
102 Psychotherapy in Postoperative Conditions. E. J. A. Rogers, Denver.
103 Chemical Corporeal Correlations as Applied to Practical Medicine. E. C. Hill, Denver.
104 *Removal of Skin from the Abdomen During Laparotomy as a Source of Material for Grafting. F. G. Connell, Oshkosh, Wis.

104. **Material for Grafting.**—A recent case in which an extensive *granulating* surface of the face and scalp was covered with Thiersch grafts, cut from a redundant piece of abdominal skin, that was discarded during the course of an operation for ventral hernia, subsequently rescued and kept in normal salt solution until it could be used, leads Connell to suggest that suitable skin for grafting purposes might easily be obtained during the course of the majority of laparotomies. A longitudinal strip of skin and superficial fascia, in length equal to the abdominal incision, and in width from one-half to one inch, depending on the amount of subcutaneous fat and the redundancy of the skin, might, he says, be removed from either edge of the wound and cause no interference with the abdominal union, nor of the convalescence or convenience of the donor. This strip of tissue from which the skin is to be cut may be removed at the outset of the operation and handed to an assistant who may do the grafting. Or the tissue may remain in place until the operation is completed, all but the suturing of the skin and superficial fascia, it may be kept in hot normal salt solution until the closure is completed, or better, the final suturing may be done by an assistant while the transplanting is carried out at once.

### *New Orleans Medical and Surgical Journal*

*February*

105 Reciprocity with the Louisiana State Board of Medical Examiners. Its Present Status. F. A. Larue, New Orleans.
106 Pathologic Facts about Malaria. O. L. Pothier, New Orleans.
107 Hydrotherapy. T. S. Dabney, New Orleans.
108 Early History of Anesthesia. C. W. Allen, New Orleans.
109 Pellagra Contracted from Domestic Animals. J. B. Rushing, Benson, La.
110 Extirpation of Varicose Veins. E. D. Friedrichs, New Orleans.
111 Iliofemoral Aneurism. Treated by Endoaneurismorrhaphy (Matas). H. B. Gessner, New Orleans.
112 Tuberculous Hip-Joint Disease. L. Sexton, New Orleans.
113 Indications for Exploratory Laparotomy. M. Souchon, New Orleans.
114 Epilepsy. P. E. Archinard, New Orleans.
115 Anterior Poliomyelitis (Infantile Paralysis). L. L. Cazenavette, New Orleans.
116 Modern Conceptions of Hysteria. R. M. Van Wart, New Orleans.
117 Surgical Parotitis in the New-Born Infant. J. Smyth, New Orleans.
118 Modern Treatment of Paralysis of Childhood. E. D. Fenner, New Orleans.

### Journal of Medical Research, Boston

*February*

119 *The Normal and Pathologic Histology of the Thymus. A. M. Pappenheimer, New York.
120 Immunity Production in Rabbits by Inoculation of Increasing Numbers of Living Virulent Bovine Tubercle Bacilli. C. W. Lieb, Colorado Springs, Colo.
121 Th[illegible] which Develop in the Kidney as a [illegible] Ligature, of One Branch of the [illegible] MacNider, Cleveland.
122 *The Relationship of Amboceptors in Complement Fixation and in Bacteriolysis. J. C. Torrey, New York.

123 *The Occurrence of Lipase in Human Tissues and its Variation in Disease. M. C. Winternitz and C. R. Meloy, Baltimore.
124 *Antiperistalsis in its Relation to Tubercle Bacilli and Other Bacteria in the Alimentary Tract. A. E. Hess, New York.
125 Carcinoma of the Breast in a Male. G. McConnell, St. Louis.
126 Aciduric (Acidophilic) Bacteria. A. Kendall, Boston.
127 *The Clinical Diagnosis of General Paralysis of the Insane. E. F. McCampbell and G. A. Rowland, Columbus, Ohio.

119. **Thymus.**—Pappenheimer reaches the conclusion that the thymus is an epithelial organ containing two types of epithelial cells, one the reticular epithelium serving as a supporting structure, and the other the well-known small thymic cells, which are not lymphocytes. Hassall bodies are formed from the reticular cells. The thymus consequently bears no relation to lymph glands. It is in a state of evolution until puberty, when regressive changes take place, at first abruptly, later more gradually. It is, however, probably a functional organ throughout life. Status lymphaticus is not associated with any definite structural features in the thymus, except that normal involution is delayed in persons manifesting the lymphatic state.

122. **Antigonococcus Serum.**—Torrey states that an antigonococcus serum may contain substances on which the fixation of complement depends, and yet be devoid of anticidal antibody. This condition may be reversed. Hence it is necessary to conclude that bacteriolysis and fixation of complement do not depend on the same antibody.

123. **Lipase in Human Tissues and Disease.**—Winternitz and Meloy find that there is no decrease in the lipolytic activity in old age; that its activity in various tissues is very low at birth, but increases rapidly during the first few days of life. In the toxemia of pregnancy and diabetes mellitus the lipolytic activity was found to have declined in all the tissues examined. Chronic passive congestion with atrophy of the liver cells causes a fall in the lipolytic action of the liver. This action was also diminished in livers showing fatty changes and cloudy swellings, as well as in four cases of cirrhosis. In acute and chronic nephritis the lipolytic activity of the kidneys as a rule is decreased, but the decrease is not proportional to the involvement of the kidneys. In general tuberculosis with anemia, the kidney as well as the liver, lung and blood suffer loss in lipolytic action.

124. **Antiperistalsis in Relation to Dissemination of Tubercle Bacilli.**—Hess finds that when bacteria are injected into the rectum the antiperistaltic wave does not as a rule carry them below the ileocecal valve. The conclusion that bacteria so injected rapidly ascend along the intestinal wall into the stomach, esophagus and pharynx, then passing into the respiratory tract, is a mistake, the bacteria being disseminated not by the alimentary tract, but by the blood. Tubercle bacilli, as well as *Bacillus prodigiosus*, pass through the intestinal wall, entering the lymphatic system, and are then distributed by the blood. The reason that previous workers failed to find tubercle bacilli in the blood after rectal injection is because they did not employ sufficient quantities of blood for cultures and inoculations.

127. **The Diagnosis of General Paralysis of the Insane.**—The authors find that 97.8 per cent. of cases diagnosed as general paralysis give a positive Wassermann reaction with the blood and 89.1 per cent. of such cases give a positive reaction with the cerebrospinal fluid. The Noguchi globulin test was obtained with the cerebrospinal fluid in 95.6 per cent. of all cases, and the Ross-Jones globulin test in 93.4 per cent. In 95.6 per cent. of the cases there was found a lymphocytosis of the cerebrospinal fluid.

## Northwest Medicine, Seattle

*February*

128 Theories of Anaphylaxis. E. E. Heg, Seattle.
129 The Sigmoid Colon. W. D. Kirkpatrick, Bellingham, Wash.
130 How Shall We Treat Late Carcinoma of the Uterine Cervix? J. W. Bean, Tacoma.
131 Meningitis Serosa. R. S. Stearns, Portland.
132 Is Operation Advisable in Fractures of the Skull? O. B. Wight, Portland, Ore.
133 Nystagmus in Relation to the Physiology and Pathology of the Internal Ear. R. L. Nourse, Boise, Ida.
134 Suppurative Otitis Media in Children. H. V. Würdemann, Seattle.
135 Rare Cases of Herniotomy. C. N. Suttner, Walla Walla, Wash.
136 Quarantine. W. Johnston, Spokane.

## American Journal of Surgery, New York

*February*

137 General Rachianesthesia. T. Jonnesco, Budapest, Hungary.
138 Subdural Hemorrhage of Traumatic Origin. T. A. McGraw, Detroit.
139 Perforation in Typhoid. H. B. Delatour, Brooklyn.
140 Anesthesia for Intracranial Surgery. F. H. McMechan, Cincinnati.
141 **Technical Points that Furnish the Best Curative Functional and Cosmetic Results in Mastoid Operations for Extradural Lesions.* W. S. Bryant, New York.
142 Venous Stasis as a Therapeutic Measure. A. Bonner, New York.
143 Early Diagnosis and Removal of the Cancerous Uterus. C. W. *Strobell, Rutland.*
144 *Automatic Device for Prolonged Intermittent Flushing. A. J. Bendick, New York City.

141. **Mastoid Operation.**—Strict attention to the following points has given Bryant the best cosmetic, functional and curative results in mastoid operations: (1) The employment of rigid aseptic technic; (2) the immediate closure of the external wound with a minimum of drainage; (3) in a simple mastoid operation, the non-interference with the tympanic contents; (4) the healing of the tympanum before the postaural opening is finally allowed to close; (5) the daily use of Politzerization, beginning three or four days after the operation; (6) the performance of a radical operation only in cases which demand it; and the modification of the technic of a radical procedure so that all the living tympanic structures may be conserved; (7) the preservation of the Eustachian tube intact and patent, throughout; (8) leaving the cochlea intact, except in cases where there are definite indications of an invasion of the cochlea by suppuration.

## Texas State Journal of Medicine, Fort Worth

*February*

145 Menorrhagia Requiring Hysterectomy. W. Keiller, Galveston.
146 Two Cases of Extrauterine Pregnancy. J. E. Gilcreest, Gainesville.
147 Modern Forceps Delivery. G. V. Morton, Fort Worth.
148 *Unusual Depth of Uterine Cavity. J. G. Jones, Smithville, Tex.
149 *Peculiar Mental Phenomena. F. U. Painter, Pilot Point.
150 Importance of Early and Complete Operation in Infectious and Hemorrhagic Conditions of the Abdomen. J. M. Inge, Denton.

148. **Depth of Uterine Cavity.**—The vertical measurement of the uterine cavity in a case cited by Jones was found to be something over 14 inches; the distance from the os to the orifice of either Fallopian tube was from 16 to 17 inches; passing the end along the fundus from one cornea to the other showed a distance of 7 or 8 inches. After 50 days had elapsed since the woman's accouchement the dimensions of the uterine cavity were nearly as great as those of the gravid uterus at full term, as given by the leading authorities.

149. **Peculiar Mental Phenomena in Hemicrania.**—A male, aged 42, had suffered from boyhood with hemicrania. His attacks usually follow overindulgence at table during a period of constipation more obstinate than usual. The attacks prostrate him for several hours, during which time he suffers the most intense head pain and nausea, photophobia, lachrymation and feeling of numbness over the whole area of the distribution of the fifth nerve opposite the side affected by pain. He remains in this condition for a variable number of hours when the skin, hitherto cool and pale, will begin to glow with a pleasant warmth and become covered with perspiration, at which time he will void a large quantity of urine, fall asleep and awaken feeling well. This is his typical attack.

Occasionally he will have as premonitions of an attack, a dull frontal pain. By taking large doses of salines and missing a meal he will perhaps miss the pain and nausea, but have in their stead a peculiar mental condition precipitated by some act of his, or some word or phrase spoken by the one with whom he is conversing, which will bring before him a mental picture of another time and conversation, in which he seems to be both living and talking in the present. He will remain in this dual mental condition for hours, attending to his business, conversing intelligently on any subject introduced, and at the same time feeling that he is living and talking in the past, under circumstances similar to his present environment and conversation. This condition will terminate abruptly with a profuse perspiration or copious discharge of urine, the patient regaining his normal mental state as suddenly as he entered the abnormal.

The second patient, male, 39, has been for years employed as an accountant, having to do with long columns of figures and abstruse calculations. He usually has the typical attack of hemicrania, head pain and nausea, ending in profuse perspiration, or the voiding of a large amount of urine. At other times he has typical attacks ushered in by chilly sensations and slight vertigo without cranial pain or nausea. During such attacks he continues at his desk, but in making his calculations as, for instance, adding a column of figures, he is conscious of the fact that he is adding two columns instead of one—the one before him on paper, the other in his mind, the fictitious column being always fives or multiples of fives. He finishes both columns at the same time, writing the answer to the real problem correctly and equally conscious of the correct solution of the imaginary one. Or, if multiplying will do two problems at the same time, the one real, visual, on paper, the other mental. The mental one always concerns itself with fives or multiples of five, and so on through any and all mathematical calculations. After a variable length of time he will feel pleasantly warm, will void a large amount of urine, when immediately the chimerical problems will vanish and he will at once regain his normal mental state.

### Military Surgeon, Washington, D. C.

*February*

151 Practical Utility of Map Problems in Medico-Military Education. E. L. Munson, U. S. Army.
152 The Possible Relations Between the Army, Navy and Public Health and Marine-Hospital Service, Under the Limitations of Existing Law. G. B. Young, U. S. P. and M.-H. S.
153 *Duties of the Public Health and Marine-Hospital Service. C. P. Wertenbaker, U. S. P. H. and M.-H. S.
154 Mental and Nervous Diseases in the Russo-Japanese War. R. L. Richards, U. S. Army.
155 Presence of Acid-Alcohol-Resisting Bacilli in the Blood. G. B. Foster, U. S. Army.

153. Abstracted in The Journal, Nov. 27, 1909, p. 1847.

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## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal, London

*February 12*

1 *Cancer of the Rectum. J. Swain.
2 Cancer of the Cervical Esophagus. H. M. Davies.
3 *Radical Operation for Cancer of the Pylorus. E. W. H. Groves.
4 *Foreign Bodies in the Duodenum. S. Hastings.
5 Existence of Living Creatures in the Stomach as a Cause of Chronic Dyspepsia. W. S. Fenwick.
6 Intussusception of the Transverse Colon in an Adult. L. Wilson.
7 Diverticula of the Gastrointestinal Tract of Congenital or of Obscure Origin. A. Keith.

1. **Cancer of the Rectum.**—Swain advocates excision of the tumor through the abdominal route because it allows of the performance of a more radical operation, therefore greater possibilities for effecting a permanent cure.

3. **Cancer of Pylorus.**—Groves maintains that there is a good prospect of cure in early cases of the disease; that exploratory operations should be performed for diagnostic purposes in all doubtful cases; that a more systematic attempt should be made to remove the whole of the lymphatic area connected with the stomach; that the limits of operability, both for palliative and radical operations, should be defined more rigidly. Bad results he ascribes to the fact that an unreasonable time is usually allowed to elapse before the patient is presented for surgical treatment. In the majority of cases the diagnosis is to be made from the cardinal symptoms of loss of weight, vomiting and pain. In all doubtful cases the patient should be submitted to exploratory operation, unless the body weight rises under medical treatment. Even exploratory operations often leave the diagnosis doubtful. In such circumstances, the patient should be seen at frequent intervals or else treated by excision.

Mortality after resection of cancer of the stomach, according to Groves, is about 50 per cent. This is caused by peritonitis, shock and lung complications. The immediate mortality can be greatly reduced by adopting the two-stage method. The mortality can be further much reduced by excluding cases in which the colon, pancreas, or posterior lymph glands are seriously involved. The adequate removal of the associated lymph areas demands that the great omentum and the tissues in front of the pancreas should be taken away. Remote results of radical operations only give a percentage of 7.6 three year recoveries of those operated on. This low figure, Groves believes, may, in part, be due to the inadequate removal of lymphatic tissues.

4. **Foreign Bodies in Duodenum.**—A girl, aged 3 years, who had been very healthy previously, swallowed a short piece of pencil with a metal extremity, such as is usually attached to a dance program. The next day she began to suffer from sickness, diarrhea and colicky pain. This continued. On the third day after the accident the child appeared to be in no pain. The abdomen was not distended, and moved well with respiration. Slight tenderness was present to the right of the umbilicus. The diarrhea soon ceased. When the child was examined by *x*-rays on the day following, a well-marked shadow, evidently the metal end of the pencil, was seen about 1½ inches from the middle line, beneath the right costal margin. With the child lying on her back, and the *x*-ray tube beneath her, the dark area appeared to descend fully an inch on deep inspiration. Every day the child was examined with *x*-rays, but neither constipating food nor purges made any difference to the position of the shadow. Operation was decided on by Hastings.

An incision 3½ inches long was made above the umbilicus in the middle line. On introducing the hand into the abdomen the pencil was at once felt impacted across the gut just at the bend between the descending and transverse parts of the duodenum. It was easily disimpacted and pushed back into the stomach. An attempt was next made to pass a Brüning's foreign body forceps into the stomach, with which, aided by the hand in the laparotomy wound, it was hoped to seize the foreign body, and remove it by the esophagus. Unfortunately, having no esophagus tube, the attempt was abandoned. A small incision was made through the anterior wall of the stomach on to the foreign body held between the fingers. The pencil at once shot out, and a small wound was closed by a double row of stitches. Through-and-through sutures closed the abdominal incision. The wound healed in a satisfactory manner. The pencil was found to be 1⅞ inches long and 3/16 of an inch in diameter. The point was not sharp.

### Lancet, London

*February 12*

8 Early Diagnosis of Cancer of the Stomach. C. M. Moullin.
9 *Malignant Disease of the Appendix Treated with Emanations of Radium. T. L. Brunton and L. G. Glover.
10 Variability of the Lesions of Polioencephalomyelitis. K. Bremer.
11 Fatal Case of Acute Anterior Poliomyelitis. J. O. Symes.
12 [illegible] Sinus Disease. W. S. Syme.
13 [illegible] Malignant Tumors of Bilateral Origin. W. [illegible]
14 [illegible] of an Ordinary Ovarian Cyst. R. Jones
15 The Menopause, Natural and Artificial. A. E. Giles.

9. **Malignant Disease of the Appendix.**—The case described by Brunton and Glover is of interest because, in the first place, the lesion was a primary growth in the appendix; in the second place, the patient survived 8 years from the commencement of his trouble; and in the third place, it was the first case to be treated by a solution of the emanations of radium. Early in February, 1901, the appendix was removed. It was found to have a considerable enlargement of the distal end, the proximal end attached to the cecum being healthy. The whole organ was removed, the tumor at the end being shelled out from the iliac fossa to which it was bound down by adhesions; and this bed from which it came was scraped with a sharp spoon. A gauze plug was inserted down to this spot, and the abdomen was closed. The patient made a good recovery. During the next two years he remained well, but occasionally suffered from pain in the right iliac fossa. This became more persistent in March, 1904. Throughout the summer of 1904 good health was maintained, but in October the tenderness again became more marked.

On the twelfth of that month commenced a severe illness, there being pain in the right iliac fossa and right flank; with rises of temperature at night, and a tumor easily palpable and situated in the right iliac fossa. While it was recognized that a recurrence of the old growth had shown itself, it was also seen that there was some septic inflammation within or about the tumor. By this time the patient was severely ill, and the tumor was growing rapidly in size, the temperature being continually raised. The abdomen was opened. The growth was found to be hard, nodular and solid, and quite irremovable, and as the patient was very ill and could not stand a prolonged operation, the abdomen was simply closed and nothing further was done. The patient's condition becoming slowly worse, it was decided to try the effects of injections of cinnamate of sodium, and these were given at intervals without any appreciable effect, *from January 17 to February 10.* The tumor was continuing to increase in size during all this time; and the temperature was hectic in character; further, the skin over the flank became edematous and red, and a mass formed on the right thigh just below Poupart's ligament, which mass was also nodular to the touch. Radium treatment was then begun. One cubic centimeter of water which had absorbed radium emanations was injected into the subcutaneous fat. The patient died eleven months later.

### Clinical Journal, London

*February 9*

16 Subphrenic Abscess. W. H. White.
17 Abdominal Diagnosis. E. Ware.
18 Case of Myasthenia. F. W. Langridge.

### Medical Press and Circular, London

*February 9*

19 New Cardinal Principle in the Treatment of Diseases; Its Application in Disorders of the Nose, Throat, Voice and Speech. R. H. S. Spicer.
20 The Cerebellum and Its Affections. J. S. R. Russell.
21 Hints and Suggestions in the Teaching of Midwifery and Gynecology. F. W. Kidd.

### Journal of Tropical Medicine and Hygiene, London

*February 1*

22 Account of Some Helminths Occurring Among the South African Natives. G. A. Turner.

### Dublin Journal of Medical Science

*February*

23 Medical Education: A Criticism and a Scheme. H. T. Bewley.
24 *Glycosuria and Graves' Disease. H. C. Drury.
25 Treatment of Gastric Ulcer. J. Craig.

24. **Glycosuria and Hypothyroidism.**—Drury reports the following case: A young girl, aged 18, had symptoms of diabetes. She was greatly emaciated. She had noticed herself getting thin for about two months, and latterly had become very weak, but began to suffer from thirst about the middle of August—that is, two and a half months before. She had also missed two menstrual periods. It was evident that she was also suffering from Graves' disease; there was only slight exophthalmos but well-marked retraction of the lids; von Graefe's sign was present in limited extent, being only seen when the visual axis passed below the horizontal line. There was decided bronzing of the eyelids. There was slight tremor of the hands, and the skin was unduly moist, though there was *not* profuse sweating. The thyroid was moderately enlarged; it pulsated, and a thrill could be felt in it. The heart's action was *tumultuous and very rapid*, the cardiac impulse being widely diffused; the apex beat violent, but no murmur could be detected. The pulse rate varied from 100 to 140. The areolæ of the breasts were deeply pigmented, but the breasts themselves were small and functionless.

She complained of the throbbing of her heart, and said it troubled her for a long time—several months—before she noticed the thirst or the increased quantity of urine. The amount of urine passed varied from 100 to 177 ounces in the 24 hours. Its specific gravity was 1.042, and at first it gave a slight diacetic acid reaction with perchlorid of iron, but the reaction for acetone itself, though looked for, was not found. The diacetic acid reaction disappeared in a couple of days. The carbohydrate food was considerably limited, but not altogether withdrawn, and the girl was given crude opium in the form of compound soap pill night and morning. There is no improvement; *the girl has steadily lost weight*, the specific gravity of the urine is always high, 1.040 to 1.050, and acetone was present in the urine on each occasion. The signs of Graves' disease also are more evident, though the heart's action is quieter

### Practitioner, London

*February*

26 *Diagnosis and Treatment of Tuberculosis by Tuberculin. W. C. Wilkinson.
27 *Suppuration in the Knee-Joint: Its Causes and Treatment. A. E. Barker.
28 Milk—Sweet and Sour. C. H. Cattle.
29 Painless Labor. S. Sheill.
30 Use of the Ultra-Microscope for Early Diagnosis of Syphilis. H. W. Bayly.
31 Otosclerosis. D. L. Sewell.
32 Recent Advances in Dermatology. J. M. H. MacLeod.
33 Acidosis in Relation to Anesthesia. F. H. Wallace and E. Gillespie.
34 Treatment of Fracture of Femur After Operation. H. Chapple.
35 Diagnosis of Colic from Inflammatory Conditions in the Peritoneal Cavity. R. M. Walker.
36 Operation for Parotid Fistula. R. D. Mothersole.
37 Treatment of Diabetes. H. E. Smith.

26. **Treatment of Tuberculosis.**—Wilkinson regards the diagnostic use of tuberculin as a safe and valuable procedure. In his experience, he has had no instance in which doses of tuberculin have been followed by any symptoms that would suggest that the tuberculin had set free masses of tubercle bacilli. Tuberculin in proper doses tends to prevent such an accident, as it prevents hemorrhage and tuberculous meningitis by favoring the fibrous organization of a tuberculous formation. Wilkinson also regards tuberculin as invaluable in the early stages of pulmonary tuberculosis when the symptoms are related to other organs—heart and blood vessels and blood, digestive organs, especially the stomach, and even the muscles, nerves, bones and joints—especially symptoms of the rheumatic type. The enormous improvement in the general health—gain in weight, and especially gain in energy—and the complete disappearance of the rheumatic pains must, he says, profoundly impress any one who has witnessed the remarkable change from invalidism to first-rate health.

27. **Suppuration of Knee-Joint.**—Barker's line of treatment in all cases of inflammation of the knee, seen early, is to attempt by the Bier's bandage to arrest the inflammation. If it is obvious that this is not succeeding, as indicated by the advance of the effusion, the tenderness, and the raised temperature, he aspirates and ascertains the nature of the microorganism by smears and cultivation, keeping on the bandage for two hours morning and evening. If, in spite of this, the joint still shows signs of increasing mischief, he advises opening it, flushing it out with sterile normal saline solution, and bandaging as before. But in neglected cases aspiration should be done at once, and if the product shows the infection to be severe an incision should be made at once and the bandage applied.

By these means the last 6 or 7 patients treated by Barker have been led to steady recovery. In only one case, a very virulent infection, which had five days' start, the result was ankylosis. In another, also a bad infection, only seen three weeks after the onset, the result up to the present is good, the man walking about without pain, but with some limitation of flexion, which is improving. In all the rest recovery has been *complete.*

### Journal of Laryngology, Rhinology and Otology, London

*February*

38 Latent Infections by Diphtheria Bacillus and Administrative Measures Required for Dealing with Contacts. R. M. Buchanan.
39 Administrative Measures Required for Dealing with Diphtheria Contacts. D. Forbes.
40 Examination of 240 Skulls with Reference to the Sphenoidal Sinus and the Sphenoethmoidal Cell. W. S. Syme.

### Archives Générales de Chirurgie, Paris

*January, IV, No. 1, pp. 1-110*

41 *Vascular Tumors and Aneurisms in the Bones. A. Le Dentu.
42 *Invasion of Wall of Chest by Cancer in Pleura or Lung. (Propagation à la paroi thoracique des cancers pleuro-pulmonaires.) E. Tédenat and J. Martin.
43 *Peritonitis from Rupture of a Pyosalpinx. Lamouroux.
44 Operation for Hallux Valgus. (Ostéotomies obliques conjuguées du 1er métatarsien et de la 1re phalange pour hallux valgus.) Mauclaire.

41. **Vascular Tumors of the Bones.**—In one of Le Dentu's cases a pulsating sarcoma was found in the *first metacarpal* bone and in 6 others he found similar pulsating or vascular tumors in the *femur*, tibia or triceps. He has *collected* 9 cases in which a pulsating tumor in the bone seemed to be

independent of any malignant growth and 8 others in which even histologic examination failed to reveal such, but the preponderance of numbers of others in which malignant growths coexisted with the excessive development of the vessels or with a hematoma demonstrates, he thinks, the malignant nature of the process beyond question.

42. **Cancer in the Chest Wall Originating in the Lung.**—In the case described, a sarcoma in the pleura perforated the wall of the chest at two points and spread out in the subcutaneous tissue. The outer portion of this "shirt-stud growth" simulated a tuberculous abscess, as in 8 other cases on record. All proved fatal, and yet early operation may cure as in a case reported by Becker.

43. **Peritonitis from Rupture of a Pyosalpinx.**—Lamouroux reports a case in which the patient was saved by an early operation and has found 77 others on record, including 5 in Poncet's service. The first symptoms are insidious; first a little pain in the abdomen, then vomiting follows, the temperature rises and the pulse increases, the abdomen is soft but tender. The diagnosis is generally merely peritonitis from perforation. In 47 of the 78 cases prompt laparotomy saved 27 of the patients; the best results were always obtained when the ruptured tube was removed. The patients all died in the 31 cases in which no operation was attempted.

### Lyon Médical, Lyons

*January 9, XLII, No. 2, pp. 57-96*

45 Nervous Motor Disturbances in Pott's Disease. X. Delore and A. Chalier.

*January 16, No. 3, pp. 97-138*

46 *Fixation Abscess in Treatment of Acute Bronchopulmonary Disease. A. Pic and A. Bonnamour.
47 *Ocular Complications of Diabetes. Grand and Clément.

46. **Fixation Abscess in Treatment of Acute Bronchopulmonary Disease.**—Pic injects 1 c.c. (16 minims) of turpentine under the skin of the abdomen or thigh in every case of severe pneumonia or bronchopneumonia, whether the special gravity is due to the debility, age or alcoholism of the patient or to the passage of the pneumococcus into the blood. The injection must be made early; diabetes, tuberculosis and anasarca are the only contraindications Pic mentions. If no suppuration follows, the prognosis is extremely grave. When suppuration commences, the general condition improves at once; the temperature declines the next day and polyuria follows by the second to the fifth day. There seems to be a salutary crisis like that of defervescence in pneumonia, and the patient feels better in nearly every way. Six recoveries followed the application of the fixation abscess in 10 very severe cases. In 78 cases on record in which this method of treatment was used 45 of the patients recovered, that is, 57 per cent. This speaks encouragingly for it, he says, as the measure is never applied except in the cases with especially grave outlook.

47. **Ocular Complications of Diabetes.**—Grand-Clément discusses the weakness of accommodation, iritis, cataract and amblyopia that may occur as complications of diabetes, as also hemorrhage in the retina which he regards as of specially grave import. The cataract engendered by the diabetes subsided under dietetic measures in his experience, as also the other complications except the hemorrhagic retinitis. In the 30 diabetic patients presenting patches of hemorrhage in the retina of one or both eyes, a large proportion of sugar was always present in the urine and of acetone in the blood. Although all the patients seemed comparatively robust, yet every one died in from 15 to 18 months.

### Obstétrique, Paris

*January, N. S., III, No. 1, pp. 1-103*

48 *The *Spirochæta pallida.* (Le spirochète pale de Schaudinn.) A. Girauld.
49 *The Changes in Uterine Fibromyomas during Pregnancy and the Puerperium. G. Piquand and J. Lemeland.
50 *Excessive Salivation during Pregnancy. (Sialorrhée gravidique). A. Boissard.

48. **The Spirochæta Pallida in the Fetal Liver.**—Girauld examined the liver in 200 aborted or macerated fetuses or new-born infants. He never found spirochetes in the liver of the fetus before the sixth month, not even when the mother had florid syphilis, and he thinks that the question of abortion in syphilis deserves to be reconsidered. It is evident, on the other hand, that a macerated fetus is a syphilitic fetus in at least two-thirds of the cases. Spirochetes were found in the liver in the macerated fetuses even when the mother was apparently free from syphilis, possibly, he adds, of paternal origin. In some instances the mother had taken systematic mercurial treatment during her pregnancy and yet spirochetes were found in the liver of the fetus, suggesting that the courses in vogue are not vigorous enough. Another point suggested by the research reported is the necessity for mercurial treatment of the mother during a pregnancy even when her own infection is of many years' duration, and she seems entirely free from manifestations of the disease. Spirochetes long dormant in the women seem to find an especially favorable culture medium in the fetal liver. The findings in the placenta were almost invariably negative under all circumstances.

49. **Changes in Uterine Fibromyomas During Pregnancy.**—Piquand has found records of 82 cases of suppuration or gangrene of a fibromyoma following close on a pregnancy. Polyps are particularly liable to these changes on account of the interference with their circulation from the stretching and compression of their pedicle, while they are peculiarly exposed to infection. In 43 cases on record of interstitial fibromas with suppuration or gangrene, only 7 of the women survived.

50. **Excessive Salivation During Pregnancy.**—In the case reported by Boissard the patient, a woman of 36, had had six normal pregnancies; at the second month of her seventh, excessive salivation developed, the amount of the saliva collected ranging from 5 to 12 ounces a day. She lost over 25 pounds in weight in less than three weeks although her appetite was good and she took sufficient food and there was no vomiting. Saline infusion and belladonna did not arrest the salivation but the patient ceased to lose weight when ovarian treatment was instituted, and she regained nearly 9 pounds in four days. She then felt better and left the clinic so the final outcome is not known.

### Presse Médicale, Paris

*February 2, XVIII, No. 10, pp. 81-88*

51 *Autoserotherapy of Ascites. V. Audibert and F. Monges.
52 *Pneumococcus Jaundice. (L'ictère pneumococcique.) A. Lemierre and P. Abrami.

*February 5, No. 11, pp. 89-96*

53 *Prognosis of Diabetic Cataract. F. de Lapersonne.
54 *Coma from Acidosis due to Suppurative Inflammation of the Liver. (Coma par acidose et abcès du foie.) M. Labbé.

51. **Autoserotherapy of Ascites.**—Audibert and Monges believe that they are the first to apply this method of autoserotherapy in treatment of ascites. The technic is similar to that of Gilbert in tuberculous pleural processes. They describe a case of ascites of hepatic origin in which benefit was derived from reinjection of the patient's own ascitic fluid, commencing with 3 c.c. and never surpassing 10 c.c. The injections were made at intervals of about 6 days and 12 injections were made in all. There was no pain, no local reaction, nor any apparent influence on the temperature or on the elimination of chlorids and urea. The main effect was a copious and persisting polyuria which brought about notable improvement in the general condition as the ascites was drained away. They withdrew salt from the diet, and they emphasize the injurious action of ingested salt in ascites resulting from liver disease. They now apply this autoserotherapy in all cases of recurring ascites. The fluid is aspirated and then the tip of the needle is partly withdrawn and then diverted and the fluid reinjected into the subcutaneous tissue.

52. **Pneumococcus Jaundice.**—Lemierre was able to cultivate the pneumococcus from the blood in three cases of pneumonia complicated with jaundice. Autopsy revealed inflammation in the parenchyma of the liver, the work of the pneumococcus; the inflammation in the vessels and ducts was secondary. This liver complication seems to develop preferably in persons with preexisting liver lesions. He adds that it is possible that the pneumococcus may localize exclusively in the liver without involving the lungs.

53. **Prognosis of Diabetic Cataract.**—De Lapersonne discusses separately diabetic cataract in the young and the elderly and

senile cataract in diabetics. Before attempting to operate, the general condition should be improved to the greatest possible extent; increasing debility, tuberculosis, hemorrhage in the retina and neuroretinitis all contraindicate intervention. The diabetes modifies the tissues, rendering them more liable to infection and prolonging healing. In one case the cicatrix left from the operation ruptured five weeks after it had apparently healed. He has also witnessed the development of hypostatic pneumonia after the operation. Another serious complication which he has encountered a number of times is a postoperative psychosis. Accidents of this kind, he asserts, are peculiarly liable in diabetics who generally combine the baleful factors of age, autointoxication and atony of the intestines. In one of his cases the psychosis did not occur for some time after the cataract operation but then severe neurasthenia developed, accompanied by transient delirium; the patient refused to conform to the dietetic regulations and died in diabetic coma. At the same time, these serious complications of cataract operations are rare; in the majority of cases the results are excellent, but it is necessary to weigh the pros and cons, commence with iridectomy and redouble the precautions at the time and afterward.

54. **Coma from Acidosis.**—The glucosuria in the case described by Labbé was evidently due, he says, to inflammation of the liver following a gastrointestinal affection five years before, entailing subacute hepatitis and abscess formation. The abscesses found at autopsy were apparently responsible for the intermittent fever observed. When the breath smells of acetone but coma is not impending, he adds milk, potatoes, rice or green vegetables to the diet and gives 20 gm. (300 grains) of sodium bicarbonate. But if coma is impending he gives from 100 to 200 gm. (from 3 to 6 ounces) every day. The sodium bicarbonate may be dissolved in water and sipped; it is astonishing, he remarks, how tolerant the digestive tract is of these large doses. If the patient vomits it or is unable to swallow, he infuses about a quart of a 3 or 4 per cent. solution into a vein, while more of the bicarbonate is injected into the rectum and the patient is made to drink large amounts of milk. This intensive treatment should be continued so long as the urine gives an acid reaction.

### Revue de Médecine, Paris

*January, XXX, No. 1, pp. 1-210*

55 *Hemophilia; Pathogenesis and Treatment. II. P. Nolf and A. Herry.
56 Radiotherapy in a Case of Exophthalmic Goiter. R. Lépine.
57 *Advantages of Alkaline Intravenous Injections to Ward off Diabetic Coma. Id.
58 *Pneumonia Attended with Splenization of the Lung. IV. Mosny and Malloizel.

55. **Hemophilia.**—Nolf and Herry report considerable research on the various elements of the serum to explain their interaction, especially in production of hemophilia.

57. **Intravenous Alkaline Injections to Ward Off Diabetic Coma.**—Lépine has succeeded in warding off diabetic coma in a number of acetonemic diabetic patients during the premonitory stage of the coma. More rapid breathing, with other symptoms, indicated the impending disaster; it was only a question of a few hours more or less. After acetonemic coma is installed, the alkaline injections have only a temporary, if any, effect, but given in time, Lépine declares that they ward it off. Several patients examined a number of months after the preventive intravenous injection of an isotonic solution of sodium bicarbonate were in satisfactory condition. In one case the glucosuria was modified and the acetonemia had nearly entirely subsided when examined eight months later.

58. **Pneumonia with Splenization of the Lung.**—This study of splenopneumonia concludes with detailed reports of 23 cases of tuberculous splenopneumonia to illustrate the variety of the syndrome in individual cases. The necessity for suspecting tuberculosis in every case of splenopneumonia is emphasized. The sputum should be examined early for tubercle bacilli, the apices auscultated every day, convalescence supervised with special care and watch kept over the patients for a long time afterward. Tuberculous splenopneumonia seems to be most common in the young and in women, especially after a pregnancy or overwork. In only 4 out of 11 such cases at the Broussais hospital was an inherited taint evident.

### Semaine Médicale, Paris

*February 2, XXX, No. 5, pp. 49-60*

59 Meckel's Diverticulum in Development of Intestinal Stenosis. (Diverticule de Meckel et rétrécissements de l'intestin.) F. Lejars.

*February 9, No. 6, pp. 61-72*

60 *Epigastric Galloping Sound. (Le bruit de galop épigastrique et sa signification clinique.) M. Roch.

60. **Gallop Sound Heard in the Epigastrium and its Significance.**—Roch regards the gallop sound as evidence that the heart is making an effectual effort to restore the balance. When the myocardium gives up the struggle, the gallop sound is no longer heard. It should therefore, he asserts, not be considered a sign of an unfavorable prognosis. He reports a case in which the right heart alone was responsible for the gallop rhythm, as determined at autopsy. In another case with a gallop sound in the epigastrium, the patient had chronic nephritis and the left heart was responsible for the symptoms, but it was buried under a layer of emphysematous lung. The diagnosis at first was essential asthma with emphysema until the urine findings differentiated toxic dyspnea. The areas for the gallop sound from the right and the left heart are so close together that the slightest displacement of either confuses the focal findings. Another source of error is the extreme tendency of the neurotic to cardiac irregularity. Roch has been unable to find any signs directly pathognomonic for a right gallop sound, but it should be suspected if lung, stomach or liver disease can be excluded, distrusting it, however, if it proves transient, and strongly suspecting nephritis when it persists.

### Beiträge zur Klinik der Tuberkulose, Würzburg

*XV, No. 1, pp. 1-180. Last indexed Dec. 25, p. 2180*

61 *Results with Combined Instituti
of Pulmonary Tuberculosis.
kombinierten Anstalts- und
Lungentuberkulose.) Bandelier.

61. **Combined Sanatorium and Tuberculin Treatment of Pulmonary Tuberculosis.**—Bandelier's report fills the entire number and gives the details of 500 cases, all in women, the tables filling 135 pages. He believes that the results attained far surpass those of any similar series yet published. Only 18 of the total number of patients were not benefited and these were all in the third stage of the disease, while 32.8 per cent. in this stage regained complete earning capacity. In 17.2 per cent. of the total number the patients were apparently entirely cured; 90.4 per cent. in the first stage and 80.7 per cent. in the second regained full earning capacity, and an additional percentage of 9.6 per cent. in the first stage, 19.2 per cent. in the second, and 53.4 per cent. in the third stage regained sufficient earning capacity for the legal standard. The results were thus positive in 100 per cent. of the 83 patients in the first stage of the disease; in 100 per cent. of the 286 patients in the second, and in 86.2 per cent. of the 113 patients in the third stage of the disease. There were complications of various kinds in many cases; 53 of the 83 in the first stage were more or less anemic; 10 had laryngitis; 32, fever for months. The vital capacity increased on an average 290 c.c., the excursions by 0.91 cm. The benefits of the combined treatment are shown more particularly, he says, in the 286 patients in the second stage, including 224 with anemia, 4 with severe gastrointestinal disturbances, 23 with neurasthenia, 9 with hysteria, 18 with extreme nervousness, 14 with goiter and 2 with exophthalmic goiter, 1 with chorea, 6 with albuminuria, 1 with lupus, laryngitis in 42, the tuberculous nature not certain, and 19 with tuberculous laryngitis, 13 with tuberculous ulcerative laryngitis (5 completely cured, 8 much improved), 56 with fever. The vital capacity increased by 360 c.c., the excursions by 1 cm. The complications are recorded in his tables which show further the findings on entering and leaving in regard to the lungs, sputum, weight, vital capacity, chest measurements, the number of days in the tuberculin course and the earning capacity on dismissal. As the organism gains strength from the sanatorium treatment, it becomes better able to respond to the stimulus from the tuberculin. The whole secret of the conflicting results obtained by different clinicians, he asserts, is in the different length of the tuberculin courses—those who have given short

courses have not obtained as favorable results as those able to prolong the course beyond the usual three months. In this period the tuberculin has only just begun to get in its work. And here the cooperation of the general practitioner to continue the course is the *sine qua non* for effectual results. The average length of Bandelier's courses was five or six months. He gives the tuberculin according to the principle of reaching the maximal dose and injecting this maximal dose at longer and longer intervals, striving to maintain the "tuberculin immunity" as long as possible, thus stimulating and keeping up the production of antibodies. In his patients in the second and third stages the bacilli and sputum did not disappear until after large doses of tuberculin were being given. He emphasizes the influence of the tuberculin in arresting the symptoms resulting from absorption of the toxins generated by the tubercle bacilli: palpitations, headache, night sweats, loss of appetite and languor. In some of his cases vasomotor disturbances lasting for years, with rebellious sweats day and night, subsided entirely under the influence of the tuberculin.

## Berliner klinische Wochenschrift

*XLVII, No. 4, pp. 133-176*

62 *Fatal Transmitted Vaccinia. (Ueber schwere Vaccineerkrankungen und ihre Prophylaxe.) A. Géronne.
63. Theories in Regard to Increased Blood Pressure in Nephritis. (Zur Marcuse'schen Theorie der nephritischen Blutdrucksteigerung.) H. Beitzke.
64 Recovery from Severe Diabetes in Woman of Twenty-nine. S. P. Swart.
65 Behavior of the Complement in the Seroreaction. (Verhalten des Komplements bei der Komplementbindungsreaktion.) L. Michaelis and P. Skwirsky.
66 *Differentiation of Pain from Pressure and on Release from Pressure in Appendicitis and Peritonitis. (Das peritoneale Druck- un seiner Bedeutung für die Progn bei Appendicitis und Peritonitis
67 Deforming (Zur Kenntnis der Actiologie der Arthritis deformans.) J. Rothschild.
68 *Postappendicitic Priapism. F. Rosenthal.
69 Emissions, Spermatorrhea and Impotency for which the Prostate is Responsible. M. Porosz.

62. **Dangers of Inoculation of the Unvaccinated from Vaccination Pustules.**—Géronne calls attention to the facts that the lymph from a vaccination pustule is much more virulent than ordinary vaccine, and that when inoculation occurs much larger amounts are inoculated than are used in vaccinating, also that the inoculation generally occurs on some patch of eczema or similar lesion so that the virus is absorbed more rapidly and over a larger area than in vaccination. In a case described, a healthy two-year-old child was accidentally inoculated with virus from the vaccinated arm of a brother. The vaccinia assumed a grave form, suggesting confluent variola and proving fatal in 16 days. Autopsy showed suppurative otitis media and septic sinus thrombosis. He refers to 140 cases, compiled by Blochmann, of similar inoculation of the unvaccinated, including 61 cases in which the eyes were involved in the process. In 20 cases, the inoculation occurred on a patch of eczema and the resulting vaccinia was extremely severe, with 6 fatalities. Eight other equally severe cases have been reported more recently. Géronne urges the necessity for protecting the vaccination pustule in such a way that contagion of others is impossible—he would like to have a protecting device made compulsory—and he also advises against attempting to vaccinate in any family in which there is a case of eczema. The family should also be warned that inoculated vaccinia is a much severer affection than the vaccination pustule.

66. **Peritoneal Pain on Pressure and on Abrupt Release of Pressure.**—Further experience has confirmed the importance of Blumberg's sign of peritonitis, first described in 1907. It is instructive in appendicitis, revealing an inflammatory reaction on the part of the peritoneum possibly before any other signs of the disease become manifest. The patient is asked if he feels pain when the hand is pressed down over the appendix; this is pain A. Then the hand is suddenly and completely lifted from contact with the abdominal wall, and the patient is asked if he feels pain as this is done; this is pain B. Each pain represents different conditions; the pressure pain reveals the lesion below. As the hand pressing down is suddenly raised, the elastic abdominal wall springs back into place, and this pulls and draws on the peritoneum, causing pain if the peritoneum is inflamed but not in normal conditions. When this pain is marked, early in appendicitis, it is a signal of impending danger.

68. **Post-Appendicitic Priapism.**—In Rosenthal's case colon bacilli from an appendicitic abscess set up a thrombophlebitis causing priapism which gradually subsided with the abdominal lesions. Puncture of the right corpus cavernosum hastened the cure.

## Deutsche medizinische Wochenschrift, Berlin

*February 3, XXXVI, No. 5, pp. 201-248*

70 Nomenclature of Conceptions of Disease. (Pathos und Nosos.) L. Aschoff.
71 Question of Infection of Man with Bovine Tubercle Bacilli. (Zur Frage der Tuberkuloseinfektion des Menschen durch Perlsuchtbazillen.) B. Möllers.
72 Tubercle Bacilli in Sputum in Pulmonary Disease. (Zur Frage der im Auswurf Lungenkranker vorkommenden Tuberkelbazillen.) Dieterlen.
73 *Treatment of Tuberculosis with Large Doses of Tuberculin. J. Neumann.
74 *Intravenous and Intramuscular Injection of Large Doses of Antitoxin in Treatment of Diphtheria. Berlin.
75 Obliterating Capillary Bronchitis after Diphtheria. C. Colombino.
76 *Dangers of General Anesthesia with Part of Circulation Shut Off. (Gefahren der Narkosen bei künstlich verkleinertem Kreislauf.) E. Gräfenberg.
77 *Importance of Spirochetes for Clinical Diagnosis of Syphilis and India Ink Preparations. (Bedeutung des Spirochätennachweises für die klinische Diagnose der Syphilis.) W. Scholtz.
78 Results with Barium Sulphate Modification of the Wassermann Test. (Ergebnisse der Wassermannschen Reaktion bei Vorbehandlung der Sera mit Baryumsulfat nach Wechselmann.) C. Lange.
79 Demolition of Colles' and Profeta's Laws by Seroreaction in Syphilis. F. Bering.

73. **Treatment of Tuberculosis in Children with Large Doses of Tuberculin.**—Neumann has been testing the tolerance of children for large doses of tuberculin, his experience showing that they can bear much higher doses than has hitherto been deemed possible. He regards the local reaction to the subcutaneous injection of tuberculin as the best test of the effect of the treatment. He does not increase the dose until the local reaction has subsided. These local reactions continue with the same dosage for quite a while after there is no further temperature reaction, or they may be pronounced when there is no temperature reaction. At first the infiltration is perceptible for a week or more, but as the reaction grows less the infiltration is more and more transient and disappears within a few hours. He waits before increasing the dose until the local reaction is much less. In a case described in detail, a boy of 4 with rachitis and pronounced cutaneous reaction who was much debilitated, never having walked or talked, improved amazingly under tuberculin, commencing with about 0.0001 gm. and reaching the dose of 0.5 gm. in about six months. The intervals were from 1 to 6 or more days. He has never witnessed such rapid improvement without the tuberculin in any case. The temperature curve, he says, during the tuberculin course is that of a "remittent subnormal fever." He warns, however, that one cannot be too cautious in tuberculin treatment when the focus is in the vicinity of the central nervous system, citing the experiences with the tuberculin test in cases of tuberculous meningitis. He has also noted more or less dyspnea in certain cases after the injections of tuberculin, which he ascribes to a reaction in tuberculous bronchial glands. In one case phlyctenular conjunctivitis developed; he does not know whether to ascribe it to the tuberculin or not.

74. **Intravenous Injection of Antitoxin in Treatment of Diphtheria.**—Berlin reports favorable experiences with 120 children with severe diphtheria; he did not hesitate to give up to 16,000 units by intravenous or intramuscular injection. There were no by-effects and no disturbances even from these large amounts of antitoxin, notwithstanding that it contained a certain proportion of carbolic acid as preservative.

76. **The Dangers of General Anesthesia with Part of the Circulation Cut Off.**—Gräfenberg has been applying Klapp's method of shutting off the circulation by an Esmarch bandage applied to the legs but found that 6 patients developed thrombosis among the 75 laparotomized. None of the patients was subject to varicose veins. The thrombosis in the leg in each case was transient and harmless, but it has convinced him

that this method has too many dangers and he has now abandoned it. He remarks that the thrombosis developed exclusively after laparotomies, nothing of the kind having been observed after 110 vaginal operations.

77. **India Ink Microscopic Diagnosis of Syphilis.**—Scholtz expatiates on the simplicity and reliability of the India-ink technic for showing up the pale spirochete. A small drop of the serum on the slide is mixed with a small drop of distilled water and a small drop of the mixture is transferred to another slide. Half this amount of India ink is then added and mixed and spread out over the slide with the edge of another; the material is then dry and ready to be examined in half a minute. The field looks like a photographic negative; the objects in the field are comparatively colorless against the dark background. The spirochetes show up in well-made India ink specimens as clearly as with the ultramicroscope.

### Medizinische Klinik, Berlin

*January 30, VI, No. 5, pp. 167-206 and Supplement*

80 *Moral Infirmity in Children. (Moralischer Schwachsinn im Kindesalter.) W. Stoeltzner.
81 Determination of Tubercle Bacilli in the Sputum. (Methodik und Technik der neueren Verfahren zum Nachweis von Tuberkelbazillen im Sputum mit besonderer Berücksichtigung des Uhlenhuthschen Antiforminverfahrens.) Schulte.
82 *Value of Tuberculin in Treatment of Tuberculosis. W. v. Leube and others. Commenced in No. 1.
83 Vinegar for Softening Strip to Cut in Removing Plaster Casts. (Zur Technik der Abnahme der steifen Verbände.) M. Stransky.
84 Saponin Hemolytic Reaction in the Cerebrospinal Fluid in Organic Nervous Disease. (Eine biologische Reaktion im Liquor cerebrospinalis bei organischen Nervenkrankheiten.) A. Hauptmann.
85 Aphasia. K. Goldstein.

80. **Moral Weakness in Children.**—Stoeltzner discusses the children who seem to have a natural tendency to cruelty and malice and the advice that should be given the parents. He advises in the severer cases placing the child in a psychiatric institution for better study of the case, and a record kept that may be of use later if the child comes into collision with the criminal law, as is liable to be the case. He suggests the advantages of a colony for the incorrigible.

82. **Tuberculin in Treatment of Pulmonary Tuberculosis.**—In this symposium von Leube reports that decided clinical improvement was realized in 30 to 50 per cent. of 150 patients in the second and third stage of pulmonary tuberculosis injected twice a week with from 0.00001 gm. up to 0.1 gm. at intervals of three or four days, the course lasting about four or five months. Moritz also reports favorable experiences, and Müller states that he has witnessed remarkable improvement in a number of cases and some complete cures in the last eighteen years under tuberculin treatment. Not only tuberculosis of the lungs but also of the peritoneum, of the urogenital apparatus and of the eye are included in this list. He prefers the smallest doses and avoidance of any general reaction. Soltmann is not a friend of tuberculin treatment, and Heubner does not approve of it for pulmonary tuberculosis in young children; when the lungs are involved in children, the disease is no longer in an early stage. At the same time he has been much pleased with the results of tuberculin in incipient tuberculosis in young children when it is still confined to the glands. A cautious course of tuberculin treatment for two months has an unmistakable influence on the general condition as well as on the scrofulous symptoms. He has been unable, however, to obtain any reliable data as to the immunization from such a course in respect to tuberculous infection later. Hospital material is too shifting to permit this.

### Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

*February, XXXI, No. 2, pp. 151-274*

86 *Autoinfection and Rubber Gloves. (Händekeime, Selbstinfektion, Gummihandschuhprophylaxe.) F. Ahlfeld.
87 *Duration of Bed-Rest after Delivery not a Factor in Development of Retroversion. (Inwieweit wird die Entstehung der Retroversioflexio durch längere oder kürzere Bettruhe nach der Geburt beeinflusst?) F. Heimann.
88 Congenital Defects in Skull Resulting from Amniotic Adhesions. (Kongenitale Defekte am Schädel infolge amniot[illegible] F. Kehrer.
89 Etiology [illegible] s of Female Urinary and Genital [illegible] r gleichzeitigen Missbildungen [illegible] Geschlechts-Apparates.) W. Weibel.

86. **Autoinfection of Parturients.**—Ahlfeld states that the placenta had to be removed by hand in 88 out of 8,000 childbirths in his service, exclusive of cases of placenta prævia. Manual examination was also undertaken in 45 other cases. The uterus was thus entered in 133 cases during the third stage of labor, and yet in 46.6 per cent. of the cases the puerperium was afebrile. In the 7 fatal cases the mortality was the result of eclampsia or hemorrhage or the patient had presented symptoms of sepsis before delivery. Gloves are not used and yet the morbidity is less than that reported from clinics where gloves are systematically used. The morbidity is evidently the result, he declares, of importation of germs from the patient's own tissues—autoinfection—the germs being carried in by the bare or gloved hand.

87. **Bed-Rest After Childbirth and Development of Retroversion.**—Heimann compares the findings in regard to development of retroversion later in Küstner's service at Breslau, grouping the cases according as the patients were allowed to get up in from 2 to 4 days after delivery, after the fifth day, or not until after the ninth day. The proportion of cases in which retroversion developed later was only from 0.45 to 0.8 per cent. in the 2,562 women allowed to get up from the second to the fourth day, while it ranged from 1.3 to 2.1 per cent. in the second group, and from 2 to 2.7 per cent. in the third group, both containing even a larger number of parturients. Each group includes all the labor cases in four-year periods.

### Münchener medizinische Wochenschrift

*February 1, LVII, No. 5, pp. 225-280*

90 *Intestinal Sounds with Metallic Resonance as Sign of Obstruction. (Metallisch klingende Darmgeräusche und ihre Bedeutung für den Darmverschluss.) M. Wilms.
91 *Nerve Transplantation for Flaccid Paralysis. (Nervenüberpflanzung bei schlaffen Lähmungen.) A. Stoffel.
92 Transmission of Poliomyelitis to Monkeys. (Weitere Mitteilungen über experimentelle Affenpoliomyelitis.) P. H. Römer.
93 The Typhoid Bacillus in Development of Suppuration. (Der Typhusbazillus als Eitererreger.) O. Hess.
94 Importance of Bovine Tuberculosis for Development of Tuberculosis in Children. (Bedeutung der Rindertuberkulose für die Entstehung der Tuberkulose im Kindesalter.) M. Hohlfeld.
95 *The *Bacillus faecalis alcaligenes* Pathogenic for Man. A. Hamm.
96 Physical Bases for Thermopenetration. (Diathermie, Transthermie, Thermopenetration.) B. Walter.
97 *Tamponing in Treatment of Placenta Prævia. K. Heil.
98 Varying Bactericidal Properties of Human Blood. (Ueber Unterschiede in der Streptokokken gegenüber zur Geltung kommenden bakteriziden Wirksamkeit des menschlichen Blutes, insonderheit des Zitratblutes.) F. Loening.
99 *School Medical Inspectors. (Schulärzte.) Henkel.

90. **Metallic Sounds in the Intestines as Early Sign of Obstruction.**—Wilms calls attention to the sounds heard on auscultation as fluid collects above an obstruction and the peristaltic movements sway the fluid and the air in it rises to the surface of the fluid in bubbles, which burst as they reach the surface; drops from above also fall on the surface. The sounds made by the bursting bubbles and falling drops have a clear metallic ring and can be detected by auscultation very early in case of obstruction, much earlier than the gurgling sounds which are not heard until long stretches of the bowel are involved. These metallic sounds are of autoorigin and the thickness of the abdominal wall does not seem to interfere with their perception. They indicate that the intestine is distended with fluid and air from some obstruction, and they are thus, he asserts, pathognomonic of ileus; the sounds may be sometimes heard after a laparotomy but the conditions here will not prove misleading. In a year's experience with this sign he has found it reliable for differentiating mechanical obstruction and also for excluding ileus in the absence of the metallic sounds. In several cases the patients were sent to the hospital with the diagnosis of ileus, but the lack of metallic sounds spoke against this diagnosis, and the patients recovered without an operation. In others the operation confirmed the diagnosis, based mainly on the positive findings of the metallic sounds. The sign is thus important and decisive, and its appearance in the early phases of ileus is especially instructive.

91. **Transplantation of Nerves in Treatment of Flaccid Paralysis.**—Stoffel asserts that it is possible to separate in the nerve trunk the fibers which ramify off below into various branches. This is especially important in transplanting nerves

as only the fibers involved need be transplanted. He gives the details of four cases in which a plastic operation was done on the musculocutaneous and musculospiral nerves. The results were satisfactory and confirm the advantages of separating the fibers so that the intervention can be on the fibers directly involved. He reports several examples; the operation was done in the axilla and the deltoid muscle regained apparently its normal functioning and excitability.

95. **The *Bacillus fecalis alcaligenes* in Human Pathology.**—Hamm's patient was a primipara of 29 with fatal puerperal pyelonephritis and peritonitis with this bacillus in pure cultures in the urine and pus.

97. **Tamponing in Treatment of Placenta Prævia.**—Heil pleads for the advantages of tamponing as the quickest, easiest and most certain means of arresting hemorrhage in certain cases of placenta prævia if the obstetrician knows how to do it properly; otherwise it is a dangerous procedure, and he urges every one to practice it until proficient. He applied it in 8 out of 28 cases of placenta prævia and 5 of the women had an afebrile puerperium, while in the 3 cases with fever it is doubtful whether the tamponing was responsible. The metreurynter should always be given the preference, but when for any reason this is not advisable the tamponade is the only resource. He places the woman on her side and wipes out the vagina with cotton dipped in a disinfectant; if the tampon is to be carried into the cervix, he draws down the lip and introduces the strip of gauze with long forceps, packing the tampon firm in the cervix and then in the vagina, plugging it toward the last with strips of cotton. The posterior vagina must be packed with special firmness to prevent blood from oozing behind the tampon. It must not press too hard on the urethra. A third point is to pack the outer part of the vagina with cotton as gauze drains too much.

99. **Medical School Inspectors.**—Henkel concludes his dissertation on the task of the medical school inspector by emphasizing that the individual hygiene of the school child is what he has to bear in mind and watch over during the entire period of school life, keeping records in a style uniform for all the medical inspectors in the country, with a similar uniform method of reporting at the close of each school year.

### Therapie der Gegenwart, Berlin

*February, LI, No. 2, pp. 49-96*

100 *Treatment of Scarlet Fever. (Behandlung des Scharlachs.) A. Baginsky.
101 *Balneologic Measures in the Home. (Das Sauerstoffbad in der ärztlichen Hauspraxis.) J. Baedeker.
102 Development of Exophthalmic Goiter Four Years after Removal of a Goiter. (Zur Frage der operativen Behandlung des Morbus Basedowii.) J. Lowinsky.
103 Aphorisms on Treatment of the Heart. C. A. Ewald. Commenced in No. 1.
104 Intravenous Atoxyl-Iodid Treatment of Exophthalmic Goiter. F. Mendel.

100. **Treatment of Scarlet Fever.**—The first part of Baginsky's article was reviewed in these columns February 12, page 576. He here discusses the complications of the disease, and warns to be on the lookout for otitis media. Ice to the ear and region, and, possibly, instillation of a 1 or 2 per cent. carbolized glycerin frequently arrest the process if commenced at the first signs of inflammation, redness and protrusion of the tympanic membrane and sensitiveness. With signs of suppuration in the middle ear, especially when the temperature is inclined to be febrile, not a moment should be lost before puncturing the membrane, following with the usual antiseptic measures, carbolized glycerin, boric acid solutions, etc., and draining with iodoform gauze. If the process remains restricted to the ear it may subside without material injury, but if the mastoid becomes tender, general pyemic infection is liable to follow rapidly. The general practitioner must recognize the processes going on in the ear in time for successful interference, not allowing the chill to be the first warning that the patient is on the way to fatal pyemia. Even more important is the early recognition and treatment of complicating nephritis. In the last three years he has had 729 scarlet fever patients and 88 had nephritis when they entered the service; only 36 developed this complication in the hospital and there were no uremic symptoms or hydrops in any instance and no fatalities from the nephritis. He treats it by restricting the children to an exclusive milk diet, and giving a sweating bath daily or as needed. This prevents development of hydrops and its train of bronchitis, pleurisy, phlegmons, etc. Occasionally diuresis was promoted by an alkaline mineral water but no drugs were given unless digitalis was indicated for the heart. If the diuresis becomes excessive, he gives gruels instead of part of the milk. In case hydrops has already developed and there is much fever, it may be necessary to apply a cold pack and induce sweating in this way. This requires courage, but with a sip of champagne or injection of camphor wonderful results may be attained, even in apparently desperate cases. Impending anuria with severe hemorrhagic nephritis and myocarditic disturbances may require digitalis. Venesection may help to tide the patient past the danger phase in uremia, evidenced by vomiting, amblyopia, coma and convulsions. He adds in conclusion that children who have had scarlet fever should be kept under supervision for a long time; the indications here are the same as in chronic nephritis.

101. **The General Practitioner as Balneologist.**—Baedeker declares that a wide field for efficient treatment of neurasthenia, heart and other affections is opened by the introduction of balneologic measures into the home. He describes his method of prescribing "nascent oxygen baths," recording before the bath and again half an hour or an hour afterward the findings in regard to the pulse rate and force, the radial blood pressure, the nature of the heart sounds, the limits of the heart, and the depth and length of the inspirations and expirations. He says that it is practicable to make the first call on the patient and then go on to others in the vicinity, stopping in again on the way back and thus keeping the accurate record of each case. He prefers to have the baths taken while the patient feels strongest, between 10 and 12 in the morning. The patient should be able to give up half the day, as he has to recline an hour or so after each bath. A systematic course of baths can thus be taken at home without the necessity for an expensive trip to a watering-place. Tank oxygen cannot be advantageously used for baths; the gas should be generated in the water by chemical means to secure practical results.

### Wiener klinische Wochenschrift, Vienna

*February 3, XXIII, No. 5, pp. 153-190*

105 *Whooping Expiration and Roentgen-Ray Findings with Tuberculous Process in Pulmonary Glands in Young Children. (Exspiratorisches Keuchen als Symptom der Lungendrüsentuberkulose im ersten Lebensjahre.) B. Schick and E. Sluka.
106 *Clinical Importance of Chvostek's Sign in Children. (Bedeutung des Fazialisphänomens im Kindesalter.) B. Sperk.
107 *Symptomatology of Cerebral Arteriosclerosis. M. Herz.
108 Connection between Seroreaction and [illegible] (Zur Frage des [illegible] Reaktion und [illegible]
109 *Symptomatology [illegible] immation of Salivary G[illegible] C. G. Weinlär [illegible] M. U.

105. **Whooping Expiration as Early Symptom of Tuberculosis in Infants.**—Schick calls attention to the whooping nature of expiration in infants who develop signs of tuberculosis later. In 20 of the 36 children in whom he noted the sign, it first attracted attention when the infants were between 2 and 4 months old; the others were between 4 and 10 months. In 5 other cases the children were from 1 to 5 years old and in their cases the symptom was caused by pneumothorax or compression of the air passages from various causes. Seven of the 36 infants presenting this sign are still living and the fate of 7 is not known; the others have died. He regards this as a striking and valuable diagnostic symptom of a tuberculous process in the bronchial glands in early infancy. It excludes other affections which might suggest tuberculosis: croup, asthma and bronchitis in which the whooping sound occurs during inspiration as a rule.

106. **Chvostek's Sign in Children.**—Sperk has tested a number of infants for this sign and found it rare during infancy. The isolated sudden spasm on tapping one side of the face is encountered more frequently between 5 and 14, the frequency increasing with the age. The children are mostly delicate and nervous, with other signs of nervousness, exaggerated knee-jerk and diminished or lacking corneal and throat reflexes. The connection of the isolated facial phenomenon with tetany

is unmistakable in many cases. Sperk examined 213 children for this sign, repeating the tests at intervals in 61 cases.

107. **Symptoms of Arteriosclerosis in the Brain.**—Herz discusses here the frequent brief loss of consciousness, which is a sign of cerebral arteriosclerosis. He explains it as a momentary interruption of cerebration in consequence of a sudden arrest of the circulation in the smallest vessels inside the skull. He ascribes it to extrasystoles, the disturbing action of which the rigid arterial walls are not able to compensate for, as in health. When extrasystoles are accompanied by symptoms on the part of the brain this speaks unmistakably for cerebral arteriosclerosis. The extrasystole may be caused by reflex action originating in the gastro-intestinal tract. The main feature of the attacks in question is the sudden stoppage of the brain functioning, either suddenly, without premonition, or connected with alarming sensations, but the attack is over in a few seconds. The sudden return of complete consciousness, the entire lack of remembrance of the interval of unconsciousness, are important criteria of these attacks. In ordinary syncope the patient has a more or less pronounced weakness to overcome. He relates a number of typical cases; in one a robust butcher strolling down the street started to put his cigar in his mouth and suddenly noticed that a man had seized his arm. He struck the man, believing that he was being attacked, until a third passer-by explained that he had seen the man seize the butcher as he began to sway and had thus prevented his falling prone on the pavement. Herz warns of the necessity for differentiating this condition from neurasthenia. In treatment, iodin and physical measures are indicated; the nitrites are entirely inefficient; theobromin is likely to be injurious. Regulation of the diet is of supreme importance.

109. **Secondary Inflammation of the Salivary Glands.**—Weinländer reports ten cases of this kind with a suppurative discharge from the parotid duct, all observed in Pichler's service at Klagenfurt. He thinks that gentle stroke massage, with moist heat, may promote the cure. The inflammation was secondary to pneumonia, paralysis, typhoid or erysipelas, and only four of the patients recovered.

### Zeitschrift für Urologie, Berlin

*January, IV, No. 1, pp. 1-80*

110 The Bladder in Bilharzia Disease and relations to Urinary Calculus Formation. (Die Harnblase bei Bilharziakrankheit und ihre Beziehungen zur Urolithiasis.) W. Ebstein.
111 *Experimental Isolation of the Ureters. (Zur Frage der Isolierung der Ureteren.) T. L. Kobylinski.
112 *Pyelitis. Kapsammer.

111. **Experimental Isolation of the Ureters.**—Kobylinski reports the results of operations on 4 cats and 2 dogs undertaken for the purpose of determining the effect on the functioning of the urinary apparatus of exposing a longer or shorter stretch of the ureter, isolating it from the peritoneum and the retroperitoneal connective tissue. Neither macroscopically nor microscopically could any appreciable difference be detected between this ureter and its connected kidney thus treated and the intact mate. The wealth and multiplicity of the sources of its blood supply and of its innervation seem to protect it against serious injury from such manipulations. Injection of methylene blue into the aorta revealed an astonishing vascularization in the region.

112. **Pyelitis.**—Kapsammer remarks that an isolated pyelitis without participation of the adjoining kidney parenchyma in the process is recognizable only histologically. As a rule, the infection arrives by way of the blood. When the pyonephrosis is primary, the suppuration precedes the dilatation of the kidney hilus; the ureter is narrow and short, and there is no compensating hypertrophy of the other kidney. When the pyonephrosis is of secondary origin, the hilus becomes dilated before suppuration occurs; the ureter is dilated and long and the kidney shows compensating hypertrophy. The circumstance that with the chronic form there are seldom appreciable symptoms on the part of the hilus and that the secondary symptoms in the bladder overshadow all others, led to the false assumption that the trouble was inevitably due to ascending infection. Colics with bladder tenesmus are characteristic of acute obstruction of the ureter. Colic pains without the bladder tenesmus suggest acute distention of the capsule. Catheterization of the ureter locates the trouble but its severity and extent can be learned only by functional tests, and accurate knowledge of the anatomic condition of the pathologic kidney is indispensable for successful local treatment by the ureter catheter. It is important to refrain from stretching the bladder and the kidney hilus, especially in the acute cases so that instillation is alone permissible. Flushing out with quantities of fluid is allowable only in the subacute and chronic cases. The local treatment may be effectually supplemented by a course of alkaline mineral waters. But they should not be ordered haphazard; in cases of alkaline pyelonephritis, renal tuberculosis, pyelitis from phosphate stones and hypertrophied prostate, the alkaline waters are liable to do direct harm.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*January 30, XXXI, No. 13, pp. 129-144*

113 Small Epidemic of Cerebrospinal Meningitis in Italy. S. Lopriore.
114 Idiopathic Edema in Child of Four. (Caso di edema essenziale dei bambini.) G. Giarratana.

### Policlinico, Rome

*February 6, XVII, No. 6, pp. 163-194*

115 Color Blindness. (Del Daltonismo.) A. Neuschuler.

### Ugeskrift for Læger, Copenhagen

*February 3, LXXII, No. 5, pp 115-142*

116 *Mongolian Idiocy in Children. (Den infantile Mongolisme.) H. Scharling.

116. **Mongoloid Idiocy.**—Scharling discusses the differential diagnosis of infantile mongolism as distinguished from myxedema and cretinism, and describes a number of typical cases in his care at the Brejninge home for feeble-minded. The child is born with the characteristic signs of mongolism, while the characteristics of myxedema and cretinism develop after birth and continue a progressive course which is not the case in mongolism. In the latter, the aspect depends more on the skeleton than on the skin, while with the former it is the changes in the skin which are most striking. Thyroid treatment has no specific action in mongolism, although some of the secondary features may vanish under it.

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## *Books Received*

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Das Altern seine Ursachen und seine Behandlung durch hygienische und therapeutische Massnahmen. Ein Handbuch für eine rationelle Lebenweise. Von Dr. A. Lorand, Badearzt in Karlsbad. Paper. Second Edition. Price, 5 marks. Pp. 259. Leipzig: Verlag von Dr. Werner Klinkhardt, 1910.

The Bacteriologist's Aid to Memory (A Handy Reference Sheet for the Laboratory). By J. W. S. Seccombe, M.R.C.S., Captain, Royal Army Medical Corps. Paper. Price, 3 shillings 6 pence. London: John Bale, Sons, and Danielsson, Oxford House, 83 Great Titchfield St., Oxford St., W.

Anatomy and Physiology for Nurses. By LeRoy Lewis, M.D., Surgeon to and Lecturer on Anatomy and Physiology for Nurses at the Lewis Hospital, Bay City, Mich. Second Edition. Cloth. Price, $1.75 net. Pp. 344, with 161 illustrations. Philadelphia: W. B. Saunders Co., 1910.

Modern Surgery (General and Operative). By John C. Da Costa, M.D., Professor of Surgery and Clinical Surgery in Jefferson Medical College, Philadelphia. Sixth Edition. Cloth. Price, $5.50 net. Pp. 1502, with 966 illustrations. Philadelphia: W. B. Saunders Co., 1910.

The Elements of the Science of Nutrition. By Graham Lusk, Ph.D., Professor of Physiology at Cornell University Medical College, New York City. Second Edition. Cloth. Price, $3 net. Pp. 402, with 13 illustrations. Philadelphia: W. B. Saunders Co., 1909.

Thirty-fourth Annual Report of the Ladies' Union Charitable Society (Incorporated). Conducting the Lawrence General Hospital and Children's Home, for the Year Ending Sept. 30, 1909. Organized Oct. 5, 1875. Lawrence, Mass.

St. Luke's Home and Hospital in the City of Utica. Report for the Year ending Oct. 1, 1909, with the names of Officers for Ensuing Year. Paper. Pp. 47, with illustrations.

National Association for the Study and Prevention of Tuberculosis. Transactions of the Fifth Annual Meeting, Washington, D. C., May, 1909. Paper. Pp. 429.

Woman's Hospital in the State of New York. 54th Annual Report for the Year 1909. Paper. Pp. 71, with illustrations.

# The Journal of the American Medical Association

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## *Original Articles*

### THE FUTURE OF MILK SUPPLIES OF LARGE CITIES FROM A SANITARY STANDPOINT *

ERNST J. LEDERLE, Ph.D.
NEW YORK

To the milk dealers themselves I have long been convinced we must look for a practical solution of our great problem—proper milk supplies for our large cities.

The milk dealer of to-day occupies a unique position in the commercial world. He traffics in a product which is one of our most important food-stuffs, bringing blessings to millions of people when properly produced, carefully handled and distributed, but which, when coming from unhealthy and insanitary sources and when carelessly handled, is capable of spreading disease and misery. His difficulties are increased by the fact that, although he scarcely has anything more than a superficial oversight or control over the production of his supplies, he is held to strict accountability for their purity and wholesomeness.

The dealer in large cities in the past was nothing more than a common carrier, purchasing his supply in the country wherever convenient and shipping it to the crowded centers and there distributing it without the knowledge or opportunity of anything but the most primitive control by tests.

So dependent is the public on milk and so easy is it to reduce its food value by manipulation, either by the addition of water or the removal of cream, or both, without ready detection by the consumer, that it was early recognized by the authorities that some system of regulation must be established. The first effort was the adoption of a standard of purity referring entirely to a consideration of the quantitative constitution; that is, the food value, based not on the average composition of pure milk, but on the poorest that can be produced under ordinary conditions.

As the population of cities increased and the adjacent farms became more valuable, the dairy farms were crowded out to greater and greater distances, creating new and difficult transportation problems. For purely business reasons it became necessary to improve the methods of collecting and shipping milk so that it would not spoil by souring before delivery to the consumer.

Before discussing the requirements of milk supplies of the future, let us briefly review conditions as they now exist, the changes which have been brought about during the last few years and the factors which caused them.

#### CONDITIONS IN NEW YORK

It has occurred to me that a recital of the New York City conditions, with which I am most familiar, would illustrate what is going on in other cities, with such variations as would be incident to differences in population and local conditions.

In the year 1902 the New York City Department of Health inaugurated a comprehensive investigation into the conditions surrounding the production, transportation and vending of the milk supply. The findings were about the same as is experienced in any large city. The market milk was, from the sanitary point of view, as a rule, in wretchedly bad condition, due to ignorance and lack of care in production, which was carried on practically without any supervision. Many creameries were found poorly constructed and still more poorly managed; milk was not properly iced during transportation, bottles and cans were only superficially cleansed, milk was often kept in unclean stables in the city, was dipped from cans in dusty streets, was kept in stores with insanitary surroundings and often adjoining bedrooms. In fact, milk was produced and handled under conditions which tended toward an unclean, unwholesome product.

The authorities at once set about to improve the supply in all directions pointed out, but it was not until several years later that it was possible to make the comprehensive country inspections at dairy farms that are now being so admirably carried out, resulting in such marked improvements.

The state authorities have done practically nothing during the last years to improve the sanitary conditions under which market milk is produced and transported. They have confined their activities mainly to the regulations of adulterations and the supervision of diseases among cattle.

While New York City has not the legal authority to make inspections outside of the city limits, the fact that its health department has in force a license system for milk dealers and that no milk can be sold without such license gives indirectly the necessary power. A city milk dealer may have his license revoked unless his patrons permit inspection and follow out orders for improvement as a result of such inspections. The plan is working out well, most farmers are gradually complying with instructions and the more intelligent of them are well satisfied with the benefits derived. Probably the most serious matter that has come up in this connection has been the fact that it has been usually not possible for the farmer to realize an extra compensation for the increased and improved plant and additional labor of production. We are in a transition stage; all reforms work some hardships.

The matter of an increase in the price that the farmer must receive for his milk when properly produced is one that must soon be settled; it will become more and more urgent. I am not unmindful in this connection that some dealers are on their own initiative paying special prices, but this is as yet by no means the universal practice. One of the principal reasons for this is the general unwillingness on the part of the public to appreciate the value and to pay an additional price for a better milk supply, in which position they are unfortunately upheld by the daily press. I am confident that when the improvements are more universal and the conditions are thoroughly understood the public will be willing to pay a fair price for wholesome milk of good quality. Some progress has been made in this respect in the introduction of the certified, inspected and scientifically pasteurized grades of milk.

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* Read at the meeting of the International Milk Dealers' Association held in Milwaukee, Wis., Oct. 18, 1909.

When those interested in reducing the very high death rate of infants in our city found what is probably true of every large city in the world, that the general milk supply, the market milk, was unfit for use for feeding babies, an agitation of reform was begun which is bearing good fruit. But we are yet in the stage of a mere beginning; the surface has been only slightly scratched.

As in all great movements of reform, there is no agreement as to the methods to be employed. Without at this time going into details with which you are all familiar, it may be said that there was a general agreement as to what the unsatisfactory condition of our milk supply was, and to what it was due, but there were wide differences of opinion as to the best remedial methods.

At the time of the investigation there were the following grades of milk on the New York market:

Certified milk (Milk Commission)—Sold in bottles at from 12 to 15 cents per quart, probably less than 1 per cent. of the supply. Bacteria standard of not over 30,000 per c.c.

Bottled milk—special milk and so-called baby milk; highest price 9 cents per bottle. No bacteria standard, usually 4 to 5 per cent. fat.

Bottled milk—ordinary market milk of good grade; from 3½ to 4 per cent. fat; no bacteria standard; bacteria usually very high. Price, 8 cents.

Bottled milk—selling at 7 cents a quart; about 3¼ per cent. fat, with bacteria very high.

So-called loose milk, brought to the city in 40-quart cans and retailing from 4 to 7 cents a quart, ranging from 3 to 4 per cent. in fat, with bacteria in variable numbers, usually very high.

Modified milk and pasteurized milk for infant feeding could also be obtained at certain stations maintained by Mr. Nathan Straus.

One milk dealer supplied commercially pasteurized milk without designation or special claims.

Our general milk supply was unsatisfactory for the following reasons:

With the exception of the certified milk and modified milk, the supply was entirely unsuited for infant feeding on account of high bacteria count; that is, it was not clean; much of the supply arrived in the city at a temperature above 65 F. and during the summer months would readily sour. The insanitary conditions surrounding its production and the careless and frequent handling, with personal contact, endangered the supply with possible infection from scarlet fever, diphtheria and typhoid fever.

I think it is fair to say that had it not been for the insistence on better supplies for the babies the improvement of the general supply would have found little support and the solution of the problem would have been postponed for no one knows how long. Although epidemics of the above-mentioned diseases have each year been traced to infected milk supplies, great interest in improvement was not aroused until the cause of the frightful infant death rate was brought home. The influence of the work of the Certified Milk Commission has been of first importance, although the total output of such milk is still an almost negligible quantity as compared with the total supply. It soon became evident that certified milk could never be the solution of the great problem of safe milk for the babies at large on account of the high price of production. Nor did it seem feasible to rely on its general use to safeguard the public against the spread of certain infectious diseases. On account of these considerations, and largely for purely commercial reasons, the milk dealers of our city began to apply the process of heating milk, producing what is known as commercially pasteurized milk, a continuous process by which milk is heated to a temperature usually from 140 to 160 F. for a few seconds.

I am one among those who at that time strongly urged pasteurized milk, and briefly for the following reasons: The dealer was being held strictly responsible for the product he sold. In the case of the larger ones, their business had grown to such proportions that anything like strict supervision of control of the production was out of the question. While some have exercised such control thoroughly for years, others have grown up without it, apparently with the sanction of the authorities, at any rate without interference on their part.

Milk supplies of large cities cannot be shut off while experiments are being made as to the best methods of improvement. I was aware that tuberculosis was very common among dairy herds, that it was recognized that there was some danger of infection from this source, that the practical elimination of this disease from the herds could not be accomplished in many years, and that practically nothing was being done in that direction by the authorities. The excellent system of inspection of the farms, while very valuable, could, in my opinion, not for a long time, if ever, be so thorough as to eliminate danger of transmission of typhoid fever, scarlet fever and diphtheria from milk. It seemed that the conditions warranted safeguarding by treatment where original purity was unattainable. At the same time, attention was called to the necessity of correcting the evils at the point of production.

Our city was now aroused over the milk question and a bitter controversy was waged between two factions as to the best means to secure safe milk; some maintaining that the best and only solution was the production of clean, raw milk, as typified by certified milk, and others claiming that the remedy must be a more immediate one than is possible by clean raw milk production; that is, that pasteurization must be resorted to. Much has been produced by very able writers on the subjects of clean, raw milk and pasteurized milk and I could probably add nothing now, but I will state briefly what I believe to be the principles involved and the stand which, in my opinion, the dealers should take both from the viewpoint of the public health and in their personal interests, which are in this case identical.

The duty of the milk dealer is clear to me. It is to supply the quality of milk which is approved by those disinterested physicians and sanitarians who have made a special study of the requirements of infants and invalids and who are familiar with public-health problems in their broadest application.

In the light of present knowledge on the subject, it would appear that a dealer should not be satisfied to offer the public any milk unless it be clean and safe, either a clean high-grade market milk, scientifically pasteurized, or a clean, raw milk of low bacterial count from healthy animals.

### THE IMPORTANT PROBLEM

It must have occurred to others, as it has so strikingly to me, that more rapid progress could be made if we realized that the babies' milk problem is the more important and should be regulated first and separate from that of the general supply. The requirements are so much more exacting for infant milk, and it having been so well established that this grade of milk is very materially more expensive to produce and commands a higher price than can ordinarily be demanded for milk for general use, that it seems wise to separate the two problems.

There is much to be said in favor of the establishment of infants' milk depots, where not only the best infant milk should be dispensed, but where much can be done to educate the mothers in the care of their little ones from various standpoints. My own opinion is that, while theoretically the best milk for these depots would be the certified type, the expense is so great that, in order to do the most good to the greatest numbers, it should not only be permissible, but good sense to use a good, clean, scientifically pasteurized milk.

For some time at least such infant milk depots will probably be established and maintained by charitable associations and possibly under municipal control. There is strong agitation for both forms in our city. I think it is very unfortunate that the feeling exists that our dealers are not able or willing to supply the grades of milk required for such depots. To my mind, such grades of milk should be supplied by all large dealers wherever they offer milk to the public. In other words, it is a function which the dealer should exercise as part of his regular business.

I fear that there is the temptation for the dealer to be unwilling to admit that his ordinary market milk is not a fit food for infants, when, as a matter of fact, there is not a city in the world whose regular milk supply is suitable for such purpose, and it seems very unlikely that it can ever be brought to that standard. In discussing the details of future milk supplies, I will revert to this and give my ideas of how the supplies should be graded. The high standard set by the Milk Commission, their severe restrictions as to type of buildings, the extreme cleanliness demanded in every step of production of milk from the washing of the udders of the cow to the sterilization of utensils, with the necessarily large initial outlay entailed and the increase in running expenses, while having a most marked beneficial effect on the whole dairy industry, is rather discouraging to the small producer of market milk; it all seems so impossible to him, considering the small value placed on his product. It must be made clear to him that not all milk need be produced under such conditions, and that a good, wholesome, clean milk can be made in simply constructed barns if kept clean and with care in every step of handling. Much good work in this direction can be done by the dealer, either independently, or when official supervision is at all exercised in connection therewith.

### PURE MILK AND PASTEURIZED MILK

During the last few years the public has been pretty thoroughly advised on all matters pertaining to clean milk and pasteurized milk. Every one recognized the necessity of clean milk, but more and more are won over to see the absolute necessity under the present conditions in large cities of pasteurization. All admit that the ideal milk is that from healthy animals produced under strictly cleanly conditions and properly transported and rendered in clean sealed packages; also that it is impossible to obtain such milk generally now, and that it will be for a long time to come.

It has been scientifically demonstrated that the heating of milk to a temperature of 145 to 150 F. for thirty minutes (pasteurization) will kill all the ordinary germs which may occur in milk and most of the other germs that are considered harmless but which cause deterioration and entail financial loss. As only a very slight deterioration, if any, is effected by such treatment (it is claimed by some that the milk is slightly less digestible) there is no good reason why pasteurization should not be generally applied and even required for all milk not otherwise known to be absolutely safe. I think the most serious objection to the general introduction of pasteurization is that it is possible for selfish dealers to treat otherwise unmarketable milk and make it salable. This can and should be overcome by strict regulations and the conscientious dealer will strive to improve his supply just as rigidly in the case of the milk which is to be pasteurized as that which is offered raw. The movement for clean milk must not be retarded by the introduction of pasteurization.

Under existing conditions no large dealer, to my mind, can afford to supply milk in large cities unless it is either of the certified type, guaranteed or inspected, or scientifically pasteurized. New conditions are forcing great changes in the character of conducting a large milk business. The dealer, to be successful, up to date and progressive, requires more and more scientific help; he needs the veterinarian to inspect his patrons' cattle, to assist in the elimination of diseased animals, both for the protection of the herds and in the interest of public health. The chemist and bacteriologist are needed to supervise the control over the supply, by constant tests of quality and bacteria tests for cleanliness. Old methods of hand washing of cans and bottles are being supplanted by modern machines, using hot water and cleansing powders, whose efficiency should be constantly controlled by scientific tests, supplies being examined, as the dealer can no longer afford to purchase at haphazard.

It has been interesting to me to see the growth of the application of this scientific work among the milk dealers. I have in mind one prominent member of your Association who, a few years ago, hardly knew that milk contained bacteria and who now daily scans the bacteriologic test sheets of his various supplies as keenly as does the stock broker his ticker tape. It is these men who are going far beyond the official requirements whose influence on the whole problem cannot be overestimated. These conditions make for concentration, a gradual absorption of the small and often incompetent men into larger concerns and will bring about what the press is pleased to term the "milk trusts."

It is an evolution that we see going on about us in every line of business. In the milk business my observation is that it is working out to the great benefit of the public. It is not conceivable that there can be ever any danger of a harmful combination among producers of milk. What, then, will be the requirements of our future milk supplies of large cities from a sanitary standpoint?

### FUTURE MILK SUPPLIES

Milk production, transportation and distribution will be under strict control, federal, state and municipal.

Every farm producing milk for sale will operate under a permit. This will place the production of milk intended for use in condenseries, butter and cheese factories, under the same control as market milk, thus preserving the economic balance which under present conditions is uncontrolled and operates as a very unjust and disturbing factor in their milk business. Not only will there be the strictest requirement as to cleanliness in all operations, but producers will be taught methods by which the results can be obtained in the most economical manner. The great difficulties in procuring proper labor on the dairy farms will probably stimulate the use of improved milking machines. When farmers are taught how to produce the maximum amount of milk from herds and the best methods of feeding, many of the farms now either abandoned or only partly used will become flourishing dairy farms and our cities will not be required, as now, to reach out hundreds of miles and into other states for their supplies. All milk will be bought at the creameries on the butter-fat test, the only fair means to both parties of determining its value, thereby encouraging the production of the best grades.

Creameries will be of the most approved type as to construction and equipment and will be permitted to standardize milk, the only means the dealer has of selling milk on its merits. He will be permitted to sell every grade of milk from skim milk to cream, provided he truthfully labels the same and they are clean and safe. Only refrigerator cars will be used in the transportation of milk, which will be in sealed containers, preferably the single-service packages.

All dipping of milk will be forbidden; where milk is permitted to be drawn in stores, it must be from sealed containers from some form of spigot and delivered to the customer in single-service packages.

The grades of milk will be as follows:

*Infants' Milk.*—Distributed from infants' milk depots and by dealers. Certified milk, raw. Clean milk from tested cattle, pasteurized. Modified milk made from either of the above grades.

*Family Milk.*—Clean, raw milk from tuberculosis-free herds. Clean pasteurized milk from such herds. Clean skim milk, raw or unpasteurized. All cream, except that from certified or guaranteed milk, to be pasteurized and sold according to the amount of butter fat it contains. The present unregulated sale of cream without standards is an encouragement to adulteration by the addition of thickening agents, working great hardships to the honest dealers.

Milk from untested herds will be permitted to be sold when properly pasteurized, as well as milk from cows which have been tuberculin tested and have reacted, but which it has not been deemed necessary to destroy.

Dealers should not only prepare themselves for the changes outlined, which every student of the matter will agree are in the main inevitable, but they should in their own interest be foremost in bringing them about, placing the business on a sound scientific footing, when the periodic and to the trade very disturbing public agitations will be unnecessary. I look forward to your organization being foremost in this great advance movement.

A very necessary corollary to make these new conditions economically successful (and otherwise they can have no permanency) is that the public must be educated to the appreciation of their value. It will inevitably result in higher prices paid to the farmer and a general advance in the cost of milk to the public, but it will also mean fewer deaths among babies, healthier and stronger children and practical elimination of danger of the spread of tuberculosis, typhoid fever and scarlet fever through milk, achievements all worthy of every one's best efforts.

30 West Thirty-eighth Street.

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# THE SPIROCHÆTA PALLIDA: ITS DIAGNOSTIC SIGNIFICANCE *

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Ever since, in 1905, the relationship of the *Spirochæta pallida* to syphilis was discovered by Schaudinn and Hoffmann, its presence in the various manifestations of this disease has been demonstrated with increasing frequency, certainty and ease, until to-day there are but few types of lesion which have failed to show these micro-organisms.

It is not my purpose, nor is it necessary, to bring forward once more the various grounds for belief in the *Spirochæta pallida* as the cause of syphilis. So much favor have these reasons found that one is rather in danger of overlooking the loopholes in the argument, and it is not perhaps untimely to remember such facts as Schereschewsky's[1] failures in inoculating his cultures and the doubts which in consequence occurred to his own mind as to the validity of the claims of the *Spirochæta pallida*. Nevertheless, in all the work that has been done, there is one fact which stands pre-eminent, namely, that with amazing frequency, more especially in the primary, secondary and early congenital lesions, and also to a limited degree in the later manifestations, do we find the *Spirochæta pallida,* while *per contra* no non-syphilitic lesion has served to furnish micro-organisms which cannot with care and skill be distinguished from these.

Relying on this fact, the importance of the presence of the *Spirochæta pallida,* as a diagnostic aid, becomes at once apparent, though as yet but little in the literature has appeared to emphasize this point of view, most writers dealing with the more purely bacteriologic or parasitologic aspect. To the practical syphilologist the practical value of the fact remains and it is more especially this aspect of the question that I would emphasize here.

The work outlined below was originally undertaken, however, not from any practical standpoint, but with the desire to confirm or question what seemed to me the more extravagant claims as to the presence of this organism; and it was only as time progressed that the practical value of routine examination became more apparent.

### MATERIAL

The period covered, including all cases, represents two years or more; but as, unfortunately, my earlier records, with a very few exceptions, were lost, I have had to confine myself almost entirely to those cases coming under observation during the six months prior to Sept. 30, 1909. The material has been gathered, in the main, from my own clinic (Montreal General Hospital) and that of my associate, Dr. W. L. Barlow, who, with Dr. F. S. Patch, is largely responsible for the results enumerated here. A number of cases were also examined from other outpatient clinics and from the hospital wards, and a few cases are added from private sources.

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* From the Pathological Laboratory of the Montreal General Hospital.

[1] Schereschewsky, J.: Züchtung der *Spirochæta pallida,* Deutsch. med. Wchnschr., 1909, xxxv, 835, 1260.

### METHODS

The methods of examination have varied. In the beginning the older Giemsa stain was employed; later several modifications of this, one of which (fixation by osmic acid vapor and staining by gently warming Giemsa's newer one-solution stain) gave excellent smears in three minutes. In some cases of anal condyloma and of chancre we excised portions and stained by Levaditi (old method), and in congenital fetal and infantile autopsy material this method was also used. We have tested the India-ink method of Burri[2] for making unstained smears, but as to its efficiency in diagnosis I am not able to speak; certainly good smears are obtainable.

In all our later cases, however, we have made use of the dark-field illumination with most satisfactory results. It is easy, rapid and allows a large amount of material to be thoroughly examined and shows in general a larger number of organisms than do stained smears. We were careful originally to compare the results obtained by stain and dark stage, and, while in one instance the spirochetes were found by stain and not by dark stage, in a number of cases the reverse occurred.

The danger of confusing *Spirochæta pallida* with other spirochetes (for example, the *Spirochæta dentium* and the *Spirochæta pseudopallida,* so called) has been avoided by first thoroughly removing the superficial débris and obtaining the serum from the raw clean surface—even making an incision in the case of chancre. Under these circumstances the serum may contain red blood cells, but is free from surface contamination. Second, we have paid the usual attention to the length, breadth, number and angle of the spirals. In stained smears the staining qualities were also considered. In gland puncture contamination does not occur. In skin lesions we generally made use of a Bier cupping-glass, which delivers an abundance of clear serum.

The essential point is that one must obtain the material, not from the surface, but from the deeper parts of the lesion, and therefore from parts less likely to show contamination.

### INCIDENCE OF SPIROCHÆTA PALLIDA IN VARIOUS LESIONS

In the course of this investigation we have examined some 197 lesions in 143 individuals. Of these 197 lesions, 167 were syphilitic and occurred in 114 cases of syphilis, while 30 were cases of various mouth, skin and genital lesions other than syphilitic. These embraced chancroid, gonorrheal condyloma, herpes, psoriasis, chicken-pox, tubercular papilloma, aphthous stomatitis, Vincent's angina, normal tonsils, etc.; indeed, to this list should be added many more cases in which definite records were not kept. The statement that these cases were definite non-syphilitic cases is open to question only in the case of certain chancroids which are phenomenally deceptive. All such cases have been observed for at least four months, however, and we feel justified in considering them true non-syphilitic lesions. These 30 cases all yielded negative results.

Of the 114 cases of syphilis examined, positive results were obtained from some lesion in 102, negative findings in 12. Of these 12, however, 6 were tertiary cases, 2 were old nearly healed chancres just disappearing under treatment, 1 was the case of a syphilitic fetus whose mother had been thoroughly treated previous to its birth, 1 was an early and single attempt in the case of a primary sore, 1 was a gland puncture, and 1 was a lesion doubtfully syphilitic though in a definite case of secondary syphilis.

Considering the findings per lesion rather than per individual, the results are not quite so good. (Here it is perhaps unnecessary to state that lesions of a similar type occurring in the same individual are enumerated as but a single lesion, e. g., a mucous patch of the tongue and another of the fauces—a single lesion; but a mucous patch in the mouth and a papule on the buttock are enumerated as two lesions.) One hundred and sixty-seven lesions yielded 140 positive results and 27 negative. Of the 27 negative findings, 6 occurred in chancres, 5 in gland puncture, where I confess our results have disappointed us. One was a doubtful lesion, though in a syphilitic; 2 occurred in old mucous patches, the patients being under treatment (single attempt); 6 occurred in skin lesions of the more squamous type; 6 occurred in tertiary cases and 1 in the congenital case of the fetus above referred to. These findings are also given in the accompanying table.

FINDINGS OF SPRIOCHÆTA PALLIDA IN SYPHILITIC AND NON-SYPHILITIC CASES

| | Lesion. | No. Cases. | Spirochæta Pallida. Positive | Negative. |
|---|---|---|---|---|
| Primary. | Adenitis I | 8 | 3 | 5 |
| | Chancre | 33 | 27 | 6 |
| Secondary | Moist papules and flat condylomata | 13 | 13 | 0 |
| | Condylomata<br>Anal and vulvar | 20 | 20 | 0 |
| | Mucous patches | 38 | 35 | 3 |
| | Tonsils | 25 | 25 | 0 |
| | Papules, etc., skin | 16 | 10 | 6 |
| Tertiary. | Tertiary lesions<br>Various | 6 | 0 | 6 |
| Congenital. | Post-natal | 4 | 4 | 0 |
| | Fetus | 4 | 3 | 1 |
| Total | | 167 | 140 | 27 |
| Non-syphilitic lesions | | 30 | 0 | 30 |
| Total | | 197 | 140 | 57 |

### PRIMARY SYPHILIS

Reference to the table shows that of 33 cases of primary sore, 27 yielded the *Spirochæta pallida,* and that of 8 cases of primary adenitis 3 only yielded *Spirochæta pallida;* in fact, some of these latter cases would have been better classed as secondary lesions, which gives a still smaller percentage. In view of the high percentage of positive findings in other lesions, this leaves much to be desired in gland puncture, but such is the fact in these few cases and as such I state it here without apology.

The question of accurate diagnosis—of confirmation—naturally arises in dealing with the chancre. What can we class as primary syphilis or chancre? Confirmation of any syphilitic lesion is possible only by one or other of the following means:

There may be coincident or subsequent manifestations of the disease.

Serum may yield a positive Wassermann-Bruck reaction (or similar test).

Animal inoculation may be positive.

Treatment with mercury or potassium iodid may be rapidly effective.

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[2] Burri: Wien. klin. Wchnschr., July 1, 1909.

In the primary lesions we have made use of the Wassermann reaction and animal inoculation in a few instances, but in the main confirmation has depended on (1) the manifestation of definite secondary lesions; and (2) on the rapid and uniform healing under mercury without local treatment. Accepting these two standards, the results show: (1) sores confirmed as syphilitic 33, 27 positive, 6 negative; (2) sores confirmed as non-syphilitic (chancroid), 14, all negative, making a total of 47 lesions. (The cases of two lesions which gave no *Spirochæta pallida* and no secondary lesions, but which were treated by mercury with gradual improvement, are discarded.)

The fallacy here is the reliance placed on the disappearance of the lesions under mercury; in other words, the inclusion among our definite syphilitic cases of those cases which, once the *Spirochæta pallida* was found, we felt justified in diagnosing as syphilis and in placing under treatment, with the result that no secondary signs developed beyond perhaps a general lymphatic involvement. If these cases, 11 in number, are discarded, it is seen that of 22 definitely syphilitic chancres 16 yielded positive and 6 negative results.

The 6 failures, however, deserve a word *in extenso.* Two occurred early in the course of this investigation when our technic was not so perfect; 2 were in old healing chancres, the patients being already under mercury; 1 had been treated by moist dressings, and 1 occurred in a mixed infection.

With reference to the appearance of the lesions the following classification is not without interest:

1. Of 31 sores, all indurated and more or less typical of chancre, there were:
   (a) Confirmed as primary syphilis by the appearance of secondaries, 17, 13 positive, 4 negative.
   (b) Confirmed as primary syphilis by treatment, 10, 10 positive.
   (c) Not confirmed as primary syphilis, though under observation from two to eight months, 6, none positive, 6 negative.
2. Of 15 sores not indurated and resembling chancroid, there were:
   (a) Confirmed as primary syphilis by secondaries, 5, 3 positive, 2 negative.
   (b) Confirmed as chancroid by course of disease, 10, none positive, 10 negative.

Certain facts here seem worthy of comment. Six lesions occurred, all of which were rather typical of primary syphilis, yet these cases never developed secondary manifestations, although they have been under observation at least six months (with one exception). In none of these 6 cases could the *Spirochæta pallida* be found. This fact emphasizes the difficulty of making a diagnosis from the appearance of the primary sore.

Again, of the sores which on clinical examination were diagnosed as chancroid, five developed secondary signs. Three of these had already been diagnosed as syphilis by the finding of the *Spirochæta pallida.* To this group should perhaps be added a number of cases in which, though a physician had previously diagnosed a soft sore, the patients came to the clinic with definite secondary lues. The fact that in many cases it is difficult to pronounce a given lesion primary syphilis or not is by no means new; I call attention to it in these cases that I may refer to it again later.

### SECONDARY LESIONS

A word of explanation regarding the findings in secondary lesions is perhaps necessary. The diagnosis of secondary syphilis in these cases has been made on the appearance of the lesion itself and on the presence or sequence of other lesions apart altogether from the *Spirochæta pallida* or the effect of treatment. In a few instances we have not observed other definite signs of syphilis. These cases are, however, few in number (6) and do not affect our results.

On the whole our results probably show too high a percentage of positive findings. Thus, for example, in the case of moist papules and small condylomas, by which I mean those papules and small flat lesions occurring about the buttocks, groin, skin of genitals, and warmer and moister surfaces of the body generally, I quote 100 per cent. positive findings. By this I do not mean that every papule yielded the *Spirochæta pallida,* but that, taking a number of papules, the *Spirochæta pallida* was found in some and in a few cases in all of the lesions examined. This applies in a lesser degree to mucous patches. Anal and vulvar condylomas, however, proved invariably positive, though sometimes a second examination was necessary. In the dryer skin lesions of the more squamous type, the number examined is too small for accurate conclusions, but here, too, a number of lesions in each individual were examined (five or six in some instances with the finding of but a single spirochete) before considering the examination negative. The tonsils, on the other hand, have always proved to be rich in spirochetes, so rich, indeed, that it occurred to us to examine the serum from these in cases of suspected syphilis in which there were no secondary signs beyond perhaps a slight enlargement and hyperemia of the tonsils.

Out of the 25 cases examined, 11 were of this type, and in all positive findings were obtained. The essential point is to obtain a clean tonsil by gentle curetting and then to take the serum, the freer from blood-cells the better. This is very easily done under cocain, and, though the number of cases is not large, the results have been excellent in our hands. The criticism which naturally arises is that, in dealing with mouth and throat, contamination with other spirochetes is very probable; but with initial cleansing by rubbing with cotton and by curetting away the surface contamination and obtaining the clear serum (even with blood-cells) this danger is minimized. We have, further, checked our results in this respect by an examination of a number of normal tonsils, and at the risk of repetition I would add that unless the above precautions are taken and if smears suffering from surface contamination are used spirochetes which, for want of a better term, may be called "pseudo-pallida" are to be found. To the eye accustomed to the *S. pallida* these are shorter, thicker, with fewer and less sharp spirals, and in general more coarse and sluggish. Differentiation is possible by paying attention to these points and by the fact that these latter do not occur in the clear serum. When still further corroboration is desired, a stained smear will readily distinguish these from the delicate *S. pallida.*

### TERTIARY LESIONS

Our results have been invariably negative and the few cases reported are included rather as a control than as being of scientific interest.

### CONGENITAL SYPHILIS

Four fetuses were examined. In three of these, the organs, especially liver, spleen and adrenals, yielded many spirochetes when stained by Levaditi's (old) method. One, indeed, yielded those micro-organisms in enormous numbers, so that they were found in all the organs except the skeletal muscles, testicle and cerebellum. They were free in the lumina of the blood-vessels and were also present in the placenta. The fourth case yielded no spirochetes even after careful and prolonged search of all organs. In this instance the mother, who had undoubted syphilis, had been thoroughly treated by mercury previous to delivery, and this apparently had banished the *Spirochæta pallida* from the fetus.

Of the post-natal cases, four were examined and spirochetes found in all; in one case both in mother and child, in another in two brothers two and three years of age.

### APPLICATION TO DIAGNOSIS

In a word, our results have differed little, if at all, from what many observers have already published, notably in Europe. Accepting, then, this evidence of others and in the light of our own experience—in view, in short, of the very definite relation of the *Spirochæta pallida* to syphilis—we feel that the demonstration of the *Spirochæta pallida* is as important in syphilis as is that of the tubercle bacillus in tuberculosis.

We have always believed, in common with many syphilographers, that what has been termed "one of the great anachronisms of medicine" was, nevertheless, a necessity. There are primary sores which to the third-year student may have all the earmarks that John Hunter assigned to them (yet even here the more experienced may doubt); there are chancroids of a similar classification; and there are sores of both types which no eye can pronounce definitely as one thing or the other. It is not surprising, then, that the bulk of the teaching has taught us to withhold treatment until we are sure, in spite of the fact that in so doing we are losing valuable time and permitting the disease to take a firmer hold on the patient. Medicine has truly been on the horns of a dilemma; but after hearing the story of the syphilophobe who remembers a sore treated by mercury disappearing in time, and who has never had other signs of lues, but who lives the remainder of his life as on a volcano—for mentally, at least, the fear of syphilis is worse than the actuality—after hearing such a tale one can perceive the truth which such masters as Fournier[3] have taught, namely, that we must be sure of our facts. When the same authority confesses that he, in his younger days, felt able to diagnose syphilis from the primary lesion, but that gradually he has been compelled to give up his belief and now only in typical cases would venture a diagnosis; and when, in addition to all this, he has made it clear, as no other, how important an early recourse to treatment is; to what extent secondary manifestations are altered, ameliorated, alleviated—when one remembers all this, the usefulness of any method promising confirmation and early diagnosis needs no further apology.

That even apart from the primary lesion there are many instances in every clinic in which such confirmation of diagnosis other than that supplied by treatment is desirable, if not necessary, will be admitted by all. Cases of a doubtful mucous patch, a single condyloma, a questionable rash, a slightly ulcerated tonsil, among others, occur to us. Unfortunately the finding of the *Spirochæta pallida* in tertiary lesions is from a practical standpoint impossible, while in still later stages, as in arterial disease (Wright) it is only of scientific interest. As it is in these stages, however, that the Wassermann-Bruck reaction is most promising, it is here that we can best dispense with the fact, diagnostically at least.

In congenital syphilis it is not possible for us to say whether in instances of abortion, still-birth and early death, cases occur which show so little pathologic change that a diagnosis at autopsy is impossible. Ballantyne[4] asserts this positively. In such cases the vast number of spirochetes which we, in common with all the world, have found in the organs of these cases suggests a means of diagnosis which we have not had sufficient opportunity to test. All our cases showed other signs of syphilis.

If such is the opportunity, not to say the need, for more accurate diagnosis in primary, secondary and congenital lues, surely the *Spirochæta pallida* is the means. The uniformity of my results, rather than their number, forces this conclusion on us. Let me apply the test to our own cases. Going over our records I find that in 48 out of 110 cases of syphilis the diagnosis, at first, practically hung on the *Spirochæta pallida*. Not that suspicions were not aroused by the lesion or lesions, but that there was not sufficient ground to enable one to make a hard and fast diagnosis and subject the patient to treatment without awaiting further signs.

Naturally this was most marked in the case of primary syphilis in 20 cases of which a diagnosis was possible on this finding alone. Some 6 cases of moist papules, with positive findings enabled us to come to a diagnosis; in 9 cases of hyperemic or patchy tonsils, without other signs, positive results confirmed what could otherwise have only been suspicious. Positive findings in 6 mucous patches of small size, or late in the disease, were the means of reaching a conclusion, as was also the case in 3 skin papules.

In three children of 1 month to 3 years of age who developed congenital lues, the diagnosis at first depended entirely on the presence of the *Spirochæta pallida*.

I may say that the presence of *Spirochæta pallida* was the chief factor in forming a diagnosis of syphilis in 46 individuals and from the following lesions:

| | No. Cases |
|---|---|
| 1. Chancre | 20 |
| 2. Moist papules, etc | 6 |
| Tonsil | 9 |
| Mucous patch | 6 |
| Other skin lesions | 3 |
| Congenital lesions | 3 |
| | 47 |

To summarize briefly, a study of these cases has led to the following conclusions:

In the primary and many secondary lesions of syphilis the presence of the *Spirochæta pallida* can be so easily detected that, in view of the definite relationship of *Spirochæta pallida* to syphilis and of the importance of accurate diagnosis, this method of diagnosis should receive more general application.

It should be possible to find the *Spirochæta pallida* in approximately 100 per cent. of chancres, excluding those which are nearly healed or have been actively treated, and some cases of mixed infection. In view of this fact, treatment should not be begun before diagnosis is confirmed by finding the spirochete.

Mucous patches, tonsillar patches, condylomas and moist papules give approximately 100 per cent. of positive findings. Positive findings, therefore, have a distinct diagnostic value, though this is not so important as in the case of the primary lesion.

Dryer skin lesions, gland puncture and the examination of stained sections of tissue, give results often of diagnostic value, but negative findings are of little weight.

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[3] Fournier: Traitement de Syphilis, Edition 2.

[4] Ballantyne: Antenatal Pathology, Edinburgh, 1902.

Serum from the tonsils, even when these show no definite lesion, has yielded a high percentage of positive results and has been a useful method of diagnosis in a small number of cases. This method deserves a further trial.

Absence of the *Spirochæta pallida* in congenital lues after treatment of the mother is a fact significant of the beneficial effect of mercury in congenital disease. This fact, already observed, seems sufficiently important to repeat here.

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# DRUG THERAPY AND THE PROPAGANDA FOR REFORM IN PRESCRIBING

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EVANSTON, ILL.

Physicians are employed for the cure of disease. The average patient cares little for the pathology of his ailment, but he is impatient to get well. During the past quarter of a century medical science has made great progress. Pathology and etiology are much better understood. Bacteriology has opened the door to admit biotherapy in all its variations. At the same time, though the number of drugs used has greatly increased, drug therapy has retrograded. The country boy, with a pole cut in the woods, a common line and the simplest of hooks, carrying his bait in an old tin can, will often catch more fish than the city angler, equipped with hip boots, a spliced bamboo rod, silver-plated reel, silk line and costly spoons and flies. In a like manner it sometimes happens that a physician may be very successful in practice, even though he is relatively ignorant in the fields of bacteriology, blood analysis and other refinements of diagnosis; while his neighbor who is an expert pathologist makes an almost utter failure. Why is it? The first man studies therapy, and the second devotes his attention to the disease.

Is it not criminal for the physician who is entrusted with the lives of his patients to use drugs and mixtures whose composition and action he does not know? Students have been told to be careful in the diagnosis, and when the diagnosis has been accurately made any one can treat the case. Is that true? If it is, no wonder that patients treat themselves. Therapeutic nihilism is the outgrowth of inexact methods in the use of drugs. Christian science is the legitimate child of therapeutic and religious nihilism.

When a boy, I once attempted to convince my father that a certain new tool was necessary for work to be done. The reply was: "What you need is not more tools, but brains to enable you to use the tools you have." What we as physicians need to-day is not new drugs, nor old drugs in new forms. We need to know more about a few drugs, and to use them in more exact methods.

### COLLEGE TEACHING OF THERAPY

Too little attention is given to drug therapy in the instruction of our colleges and by practitioners generally. A graduate from one of the leading eastern schools remarked as he left a pharmacologic society meeting: "We never got anything like that in college," and another said: "Though I took two special courses in prescription work in addition to the regular curriculum, I have learned more of drug therapy in three months' study of propaganda than I ever learned in school or practice before." *Per contra,* a lady from the Pacific coast took two prescriptions with her on a trip. Having occasion to use the remedies, she handed them to a pharmacist. She was informed that it would require a couple of days to get the drugs. Why? Were they not ordinary remedies? She was informed that each prescription called for compounds of the "ethical" proprietary style. What did they contain? Only the manufacturer knew exactly. She asked a few more questions, and then withdrew the prescriptions, ordered for herself an old standby, and remarked that she did not care to patronize a physician who did not know enough to write a genuine prescription. That was where the physician lost financially for his therapeutic laziness—in an attempt to make the patient fit the medicine, instead of arranging the drugs according to the patient's peculiarities. How would the doctor look if he bought his clothes on the same plan?

### UNIFORMITY OF STRENGTH

Accuracy in drug therapeusis must depend on exactness of dosage. This is self-evident as an abstract statement, but its application is often obscure. First, there must be uniformity of strength, a uniformity which must exist from year to year and in all parts of the country. Neither must it depend on a monopoly of manufacture. For this reason we have the Pharmacopeia and the National Formulary. These works are not perfect at any time; nor is it possible to make them absolutely so, for there is constant development in the subject. For this reason the books are revised once in ten years. If any preparation in either book is not as good as it should be, there is only one proper method for its correction, and that is by such a public discussion as will demonstrate a better formula, and then in the next revision have the better formula substituted. Thus one large firm recently sent to a few pharmacists in the retail trade material with which these pharmacists might make certain experiments, with a view to a change in one of the official preparations in the coming revision. Both these books are legal standards in the United States by the act of Congress. Many individual states have taken similar action, and all should do so. It would be of very great benefit, especially since travel is so general, if we might have some international pharmacopeia. At least there might be an international agreement as to many drugs.

### CHANGING STANDARD FORMULAS

In the past individual firms have sought to build up their trade by making certain secret changes in standard formulæ, and asserting, but not proving, the superiority of their products. The result has been pharmaceutical chaos, loading the pharmacists' shelves with practical duplicates and interfering with efforts to keep the stock fresh. The first work of drug propaganda was, therefore, to re-establish the legal standard. Real progress must be general. It cannot be limited for the benefit of a few. It is only the manufacturing houses and their supporters who desire to overthrow standardization of medicinal agents.

A prominent, and supposedly reputable, manufacturing house put on the market a solution of sodium phosphate which they claimed contained a gram of the salt in each cubic centimeter of the solution. I wrote asking what advantage there was in the use of potassium nitrate instead of the sodium nitrate as required in the Pharmacopeia. The reply was that they no longer used the potassium salt as formerly. (They changed their formula secretly, without any publication of the fact.) They claimed that their preparation was a pure solution of sodium phosphate, but when their attention was called to the fact that sodium phosphate is not soluble in that proportion they declined to explain their assertion. At one time phenolphthalein was supposed to be physiologically inert. Now we know it as an active laxative. It is dishonest, and it tends toward therapeutic uncertainty, when a manufacturer uses secretly any chemical in his preparation. It is the duty of the physician to know the exact composition of every remedy, and the house which does not fully recognize that duty, but regards its formulas as private, deserves loss of confidence and patronage.

The products of a certain German house have long been regarded as standards of purity. It is a surprise to many in this country to learn that the American house of that name appends the name to many drugs bought in the open market, and not made by the German house. Recent United States laws have uncovered this seeming fraud, for now a large proportion of the packages sent out by the firm bear the word "Distributors" in very small type at the bottom of the label; and a report in The Journal of the American Medical Association, Oct. 23, 1909, of examinations made by the Council on Pharmacy says of one of the products of this firm: "The product is evidently not what it is labeled." Of another they say: "This salt appears to be even more contaminated with foreign substances than is the preceding one." The propaganda demands honest drugs. Manifestly drug therapy will be uncertain so long as physicians cannot depend on the genuineness of their remedies.

There are many elements of uncertainty in drug therapy which are too little recognized. I do not refer to such as depend on uncertainty in diagnosis—such, for instance, as prescribing pepsin for indigestion, when the patient needs a diastase, or *vice versa*. Nor do I refer to such an error as prescribing pepsin in an alkaline solution, which will render the pepsin inert.

### PRESCRIBING MIXTURES

Mixtures always obscure the action of individual drugs, and ready-made preparations are especially harmful on that account. It is to be hoped that in the coming revision of the Pharmacopeia all such mixtures will be excluded. They are simply temporary bridges over which we may continue to travel until we become competent to write prescriptions to fit the individual cases. The liquor antisepticus and the liquor antisepticus alkalinus, for example, are not intended to be the same as proprietary goods, as has sometimes been asserted.

Even extemporaneous mixtures may not have the composition, and hence the action, expected. Such may be the case without fault on the part of the pharmacist. A solution containing free citric acid causes a decomposition of sodium salicylate, freeing salicylic acid, which floats to the top, and is likely to be left in the bottle. A similar result occurs with the following:

| ℞. | gm. | | |
|---|---|---|---|
| Acidi tartarici | 1 | or | gr.xv |

Ft. pulv. No. 1.

| ℞. | gm. | | |
|---|---|---|---|
| Sodii bicarbonatis | 75 | or | gr. xiiss |
| Sodii salicylatis | 50 | | gr. viii |

M. et ft. pulv. No. 1.
Sig.: Dissolve each separately and drink after mixing.

In each of these cases the physician who supposes that he is getting the effect of sodium salicylate is really getting that of salicylic acid, if, indeed, this acid does not remain in the glass. Acetanilid added to an effervescent mixture is likely to remain in the glass, and so the quantity administered is little evidence of the quantity actually taken. This fact may explain the relative infrequence of dangerous results following the use of bromo seltzer.

Differences in the alcoholic strength of solutions are productive of uncertainty. This accounts for the precipitation from the following:

| ℞. | c.c. | | |
|---|---|---|---|
| Tincturæ opii | 4 | or | fl℥i |
| Tincturæ viburni opuli compositæ | 60 | | ad.fl℥ii |

M. et Sig.: Take a teaspoonful in hot water every two hours.

If the druggist filters the product a portion of the ingredient is removed. If it is not filtered, the last dose may contain an excess.

Here is another actual prescription:

| ℞. | c.c. | | |
|---|---|---|---|
| Fluidextracti gentiani | 4 | or | fl℥i |
| Spiriti ætheris nitrosi | 30 | | ad.fl℥i |

M. et Sig.: Take, etc.

The gentian is immediately precipitated.

### DETERIORATION OF DRUGS

The age of a preparation is another element of variation in therapeutic action. Even the simplest and most stable inorganic preparations change with time, and vegetables remedies alter rapidly. This is another objection to the practice now so prevalent among some unprogressive druggists, of buying mixtures ready made from some large manufacturing house, and on the part of some doctors who encourage the custom. All drugs should be as freshly prepared as possible, and they should be ordinarily kept in stock in their simplest forms. This is also a strong reason against physicians dispensing. They cannot afford to spend the time compounding, and so they buy the ready-mixed goods and keep them on their shelves until their action is decidedly uncertain. I venture to guess that the combined active strength of all the drugs in the offices of American physicians to-day is not over a quarter of what it should be. I know that very many are inert.

There is another element of uncertainty in the work of dispensing physicians. Because they are not much in the drug trade they are not so likely to detect drug errors as equally energetic pharmacists. A New York house doing a large physician's specialty business sells a digestive tablet, which many physicians have been dispensing to promote digestion. Analysis shows that it consists chiefly of charcoal and sodium bicarbonate, and when tested it was found to possess no digestive action.

More attention must be paid to the variation caused by the size of dose in the action of a drug. Calomel, for example, when given in one large dose, produces a cathartic effect with little constitutional disturbance. Half a gram divided into eight powders, and given at regular intervals of an hour, produces a cathartic action plus some extra intestinal irritation and plus a general constitutional influence. Given in doses of half a centigram two or three times a day, we have a general glandular stimulation, without special intestinal disturbance. Unsatisfactory drug therapy frequently results from overlooking such a variation in drug action.

Many firms sell different grades of drugs to the retailer. Manifestly the action of the best grade would exceed that of a similar quantity of the poorer grade, but in the desire to save a small per cent. of cost a large per cent. of the action may be lost.

### OBJECT OF PROPAGANDA

Ignorance, backed by laziness and prejudice, guards the portals to the general drug propaganda and is responsible for the apathy which prevents so many physicians and pharmacists from entering this movement. Prejudice is the child of ignorance, cradled and cared for by those visiting nurses supported by designing manufacturing concerns, and the nurses are amply provided with narcotic soothing syrup to lull to sleep any troublesome infant ambition which might develop into rational pharmaceutical or therapeutic effort. The object of the propaganda for reform in prescribing is to render drug therapy more exact and scientific and thus restore it to its former honorable position. The propaganda is not designed to injure any honest person or business nor in the least to countenance or make ethical any form of substitution. Rightly understood, it is an incentive to pharmaceutical progress and in no way does it rob anyone of the fruits of special pharmacal study, for study can hardly be called pharmacal, whose sole aim is to gain commercial advantage by overthrowing recognized standards.

1243 Chicago Avenue.

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# AN EPIDEMIC OF THIRTY-FIVE CASES OF PARATYPHOID FEVER

## OCCURRING AT WEYER'S CAVE, VA. *

H. F. HOSKINS, M.D.
WEYER'S CAVE, VA.

Such writers as Osler, Anders, Tyson and others barely touch the subject of paratyphoid fever. The German pathologists describe two varieties of this fever, one of which simulates true typhoid, being shorter and milder in its course, while the other resembles ptomain poisoning. Their reports are made up of isolated cases gathered from the literature and not from a real epidemic. The Germans assert that meat, particularly beef, is the habitat of the paratyphoid germ of the B class, and that the fever can be produced by the toxin generated by the germ of paratyphoid B in ingested beef. These cases simulate ptomain poisoning at first, the remaining clinical course of the disease being practically without fever. There are such prodromal symptoms as bronchitis, nosebleed, headache, malaise and abdominal tenderness. There is at first a high temperature, which subsides on the administration of calomel, after which the temperature curve is very little above normal, though other symptoms, such as tympanites, gurgling in the right iliac fossa, rose spots, enlarged spleen, abdominal soreness, and increased pulse-rate are all present. This variety lasts about seven to eleven days; while the variety characterized by the higher temperature and other symptoms simulating true typhoid usually lasts eleven to fourteen days; in several cases twenty-one days elapsed before the normal mark was reached. This latter type of fever has been described to me by Dr. J. S. Sellers, who reports that such fevers, though not in epidemic form, have been prevalent in the Valley of Virginia for the last six or eight years. Dr. Sellers described the disease so typically that on seeing the first case I was able to make a diagnosis of fever akin to typhoid, but not true typhoid.

### CLINICAL REPORT

*Mode of Conveyance.*—This epidemic, which occurred during the spring and summer of 1909, and which consisted of 35 cases, originated in a small house in the village of Weyer's Cave. There were eight in this family, three adults and five children. The entire family used water from an old cistern which had recently been cleaned and repaired. There were three cases in this house, the first patient being taken sick on March 26, 1909, and the second four days later, while the third case developed nine days from the beginning of the first. One other patient who became ill later during the epidemic drank water from this cistern. Nine days after this he was taken sick very promptly and developed a typical case of paratyphoid fever, as shown by blood examination, which was positive. Other modes of conveyance, as food, fomites, fingers, flies and excreta from patients suffering from and just recovering from an attack are similar to the sources of infection in typhoid fever. Flies evidently play an important rôle in spreading the disease, as they were very numerous during this epidemic and the cases were scattered over a radius of three miles under such conditions as to render it unlikely that the infection was gained in any other way than by flies. It is not probable that beef or other meat was responsible for the outbreak, because the general beef-supply came from one market, and as many cases occurred in families not supplied by this market as in those that were supplied by it. Each family had its own individual water-supply. Therefore, the water was apparently not responsible for the outbreak.

*Clinical History.*—The incubation period varied from one to two weeks from the introduction of the bacterium or toxins into the system, though in over half of the 35 cases the time was from nine to eleven days. In others the incubation period was longer. During the period of incubation the patient seemed to enjoy his normal health until the beginning of the prodromal symptoms, which were characterized by languor, headache, in several cases nose-bleeding, and neuromuscular pains in the limbs and back. These prodromal symptoms began with a general uneasiness in the abdomen and generally with constipation, though in five cases there was a profuse diarrhea. The above symptoms lasted only a short time before the patient consulted a physician.

*General Symptomatology.*—The prodromal symptoms mentioned increased in severity, and to them were added bronchitis in over one-half of the cases, headache of a peculiar constant character, chilliness, especially of the feet and legs, while the patient complained of being very hot everywhere else; the hot-water bag very frequently had to be placed to the feet and kept there for hours before relief was obtained. Abdominal pains appeared, usually over the lower abdomen, though in four cases they were gastric in position and so intense as to require morphin for relief. The temperature curve gradually increased from 100 to 101-104, and in six cases reached 105 degrees. The morning remissions were more marked than in typhoid. The pulse was rapid, 120 to 155. Delirium was rare, though it was present in three cases. One marked peculiarity of the disease was its prevalence among children, only six cases being observed in adults. The symptoms were more intense in grown people than in children, the temperature running higher and remaining so for a longer time. Neuromuscular pains were complained of in about three-fourths of the cases. These pains gradually became less marked as the disease progressed and disappeared about the fourth day. Constipation was the rule, though diarrhea was sometimes present, and in several cases was profuse. The stools were of a peculiar character, being at first normal, later of yellow color tinted with green, and still later watery with the three colors combined. The urine was acid, scanty and highly colored in the beginning with occasional reaction to Heller's test for albumin. Later it cleared up and the quantity increased to about normal. Rose spots were prone to appear; in two-thirds of the cases they were present, and in several cases crop after crop appeared over the abdomen, back and chest, varying in number from a few spots to hundreds. Tympanites, though not particularly marked, was present in about four-fifths of the cases. Enlarged spleen could be palpated in 17 of the cases. Nausea occurred in the majority of the cases, though vomiting was present in but 6; these cases were affected more on the ptomain order. The tongue presented a peculiar variety of changes; during the prodromal stage it presented a distinct tremor, and was only partially coated, and here and there strawberry-like granules showed through the coating. After the third day the tongue became heavily coated in the center while the edges were red and covered with granules mentioned. The coating was very white and remained for five or six days after the fever had abated. The odor was almost identical with that of typhoid fever, yet it disappeared much sooner. The mouth was not dry and hard as in typhoid fever, and the tongue did not crack or bleed; no sordes formed on the teeth, though the patient complained of a horrible taste throughout the disease. Anorexia was marked. Only two patients desired food during the fever period. Hemorrhage was rare, as in only one case was there blood present in the stool more than once. This patient recovered and suffered no inconvenience from the loss of blood. In only two cases was there a distinct dicrotism observed in the pulse, while the pulse-rate was rapid, especially in children, often reaching 135 to 160 per minute. Of the six adult patients, only one had a pulse-rate beyond 112. A peculiar symptom complained of by about one-fourth of the patients was day-dreaming. With eyes open and no delirium, these patients were the victims of the most horrible illusions. Nervous symptoms were few, and in only one case was there a neuritis following the disease; it cleared up in one month and the function of the leg was restored. Emaciation varied; in several cases it was marked, while weakness was complained of by all who had the disease. Bronchitis accompanying the disease was the rule.

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* Read at a meeting of the Medical Society of Virginia, at Roanoke, Va., Oct. 6, 1909.

*Special Symptoms.*—The temperature was of a peculiar character in the ptomain variety. There was an initial rise, which was much higher than in the second variety, but this represented the extent of the fever, as the temperature reached practically the normal mark after the administration of calomel. This was true only in the variety characterized by intense nausea and vomiting, while the temperature curve characteristic in this epidemic was more distinctly typhoidal. Generally the highest temperature was reached on the third or fourth day of the disease and remained high for three or four days when it abated by lysis. The morning remissions were very great, as in seven instances patients whose afternoon rise was 104 would show morning temperature from 99.5 to 100. While this was the greatest difference, all the cases showed a difference from 2½ to 3 degrees between morning and evening temperatures. In 27 cases the temperature fell by lysis. In the remaining cases, some of which were ptomain in variety, it fell by crisis.

Circulation: The heart sounds were distinct, though weaker than normal, while at the same time the rhythm was increased in children from normal (85) to 135 and in six cases to 155 per minute. Dicrotism was rare in the disease, being observed in only two cases. In adults the pulse-rate was found to remain normal in four cases, while in one case it ran to 112 per minute. Three cases of adults showed normal pulse, while temperature was 102.5 and remained so throughout the disease. Nosebleeding was frequent. Anemia followed in every case.

Respiratory Symptoms: Bronchitis of a persistent character which remained for several days after the temperature had reached the normal mark was the only respiratory symptom which deserves mention. This occurred in twenty-three cases.

Neuromuscular pains were very distressing in about three-fourths of the cases, while in the remaining cases no pains other than an occasional headache were present. This disappeared about the fourth day of the fever. In two cases cramps in the calves of the leg were bitterly complained of.

Eye Symptoms: The eye presented in every case a wide dilatation of the pupil which reacted very slowly to light. The pupils remained dilated for several days after temperature was normal.

Symptoms of Digestive Tract: The coated tongue with its peculiar changes as described under "General Symptomatology," constant gurgling in the right iliac fossa, tympanites marked in but few cases, yet present in four-fifths of them, were the chief digestive symptoms. Gastric pains of a boring, excruciating character, requiring morphin to relieve, were present in four cases. Nausea and vomiting in the initial stages were observed in six cases. There was a peculiar doughy feel to the palpating hand on the abdomen which, with other symptoms, should enable one familiar with it to make a tentative diagnosis. This was felt all over the abdomen. The spleen was moderately enlarged, though not so distinct as in malaria or typhoid. Constipation was present in about five-sixths of the cases, while diarrhea occurred in about one-sixth of them. Stools have been described previously.

Skin Symptoms: The skin was dry during the prodromal period and up to the height of the fever. When this was reached, however, the skin became moist and the patient complained of profuse sweating. Rose spots appeared after the fourth day and were seen in successive crops. These spots appeared in two-thirds of the cases. The cheeks were flushed while the fever was at its height, and the facies very similar to that seen in typhoid.

Recrudescences were rare, and in our cases only one occurred. The temperature rose to 104 after having been normal for four days. Calomel was administered and the temperature very promptly subsided.

*Complications and Sequelæ.*—Neuritis, nephritis and cardiac diseases are not as liable to occur as in typhoid under proper treatment, because the duration of the disease is not so great and the poisons generated by paratyphoid B are not as virulent as those generated by the typhoid bacillus. Constipation may be placed as a complication, as about one-fourth of all the cases have suffered to some extent from this trouble since convalescence was established. There has been in our cases no insanity or other mental symptoms worthy of note. In only one case were there signs of hemorrhage; this was not severe, however, and the ice-bag apparently relieved the condition. There were but few symptoms that would lead to the belief that there was any ulceration of the lower section of the small intestines. Undoubtedly, there was an inflammation in the lymphatic structure of the small intestines, yet the symptoms were so mild and the duration of the disease was so short that it is most probable that ulceration and hemorrhage did not occur. The soreness and tenderness on pressure gave every reason for the belief that there was an inflammation, but the post-mortem facts were lacking. The exact pathology of the condition is unknown at present.

*Diagnosis.*—The diagnosis of this condition is made on the symptoms and tests, which are as follows: First, the onset is more abrupt than any other continuous fever yet described, the initial headache is more severe and of longer duration, the temperature usually reaches 103 in the first two days, while the pulse is more rapid especially in children than in any other condition described with the same temperature. It is a disease of childhood, though adults are sometimes affected. The tongue presents the characteristic changes spoken of in the section on "General Symptomatology." During an epidemic the diagnosis is not often missed. Wide dilatation of the pupil from the onset, constipation rather than diarrhea, and, *last and most important*, the serum reaction with paratyphoid B, which gives a typical agglutination, are the chief diagnostic points.

*Prognosis.*—The prognosis is decidedly good under general typhoidal treatment. No patient died during this epidemic.

*Treatment.*—The treatment may be divided into prophylactic, medicinal and nursing.

Prophylactic measures consist in isolation of the patient in a well-ventilated room, sterilizing all utensils used by the patients and disinfection of the excreta. The bed-clothing and other clothing should be well boiled before being used again and the room fumigated.

Diet should be as near liquid as the patient can subsist on. In every case in which solids were used the disease lasted longer and the patient suffered from gastralgia and general abdominal discomfort. Milk diet is best, though soft-boiled eggs, predigested beef and other peptonized preparations were all used. Water should be used *ad libitum.*

Medicines have but little effect on the course of the disease. In the beginning of the disease the administration of calomel in from two- to four-grain doses, followed by castor oil in children, seems to aid in producing a mild course of the disease. Such intestinal antiseptics as thymol, eucalyptol and zinc sulphocarbolate, were used, but as to their efficacy I am uncertain. The mental effect produced was probably beneficial. Hydrotherapy, applied as in the treatment of typhoid fever, was used in every case where the temperature reached 102.5. Mouth toilet is important, and for this a saturated solution of boric acid was used every two or three hours. Good nursing is by far the most important part of the treatment, both as to the cure of the patient and the prevention of the spread of the infection.

## BACTERIOLOGIC REPORT

The bacteriologic work was done by Dr. Allen W. Freeman, assistant commissioner of health of Virginia, Richmond, Va., and Dr. Harry T. Marshall, professor of bacteriology, University of Virginia, Charlottesville, Va., and I am much indebted to them for the painstaking work which they did on these cases. Their report follows:

A few agglutination tests were made with the serum of patients and a culture of *Bacillus typhosus.* The bacteria did not agglutinate typically. In dilutions up to 1:50 a few small, loose clumps formed within two hours, but the main mass of bacteria remained free and motile. In a few specimens, which were allowed to stand over night, large, tight clumps and motile Pfaundler's threads developed.

A comparative test was next set, one serum being used against several different bacteria at the same time. The hanging-drop method was employed, a fresh, eighteen to twenty-four-hour living agar culture being used, suspended in normal salt solution. The result of this test is shown in Table 1.

TABLE 1.—COMPARATIVE TEST OF SERUM FROM CASE 4 AGAINST FOUR DIFFERENT BACTERIA *

| Dilution of Serum. | Suspension of Paratyphoid A. | Paratyphoid B. | Typhoid. | Paracolon. |
|---|---|---|---|---|
| 1:10 | 0 | +++ | 0 | 0 |
| 1:50 | 0 | +++ | 0 | 0 |
| 1:100 | 0 | +++ | Slight Trace | 0 |
| Control | 0 | 0 | 0 | 0 |

* The reading gives the end reaction after two hours.

In this experiment agglutination of paratyphoid B began promptly, and at the end of two hours was positive in a dilution of 1 to 100.

A series of serums was next tested simultaneously against typhoid and paratyphoid B. The first seven serums were tested by the hanging-drop method, the remainder by the macroscopic method, a dilution of 1 to 30 being used, and the rapidity and completeness of the agglutination reaction being noted. From Tables 1 and 2 it is seen that 17 cases tested, all except 2, Cases 25 and 26, reacted positively with paratyphoid B. The serum from Case 26 was obtained at an early stage of the disease. Out of 8 cases tested quantitatively, 6 were *definitely* positive with paratyphoid in a dilution of 1 to 100. In several cases, marked "trace," "suggestive," or "slight," the patients' serum produced small clumps in the typhoid culture, but left many free and active organisms. *It is best to regard those results in which the reaction is doubtful as negative.* Case 26 may be discarded. This leaves 16 cases of which 15 reacted positively with the paratyphoid B bacillus, while none of them gave a clear, positive reaction with the typhoid bacillus.

TABLE 2.—COMPARATIVE TEST OF A SERIES OF SERUMS *

| No. Case. | Dilution of Serum. | Agglutination with *B. typhosus.* | Agglutination with *B. paratyphosus.* | Time Min. |
|---|---|---|---|---|
| 6 | 1:10 | 0 | +++ | 40 |
| | 1:50 | 0 | ++ | 40 |
| | 1:100 | 0 | + | 60 |
| 7 | 1:10 | 0 | ++ | 60 |
| | 1:50 | 0 | + | 60 |
| | 1:100 | 0 | Trace | 60 |
| 11 | 1:10 | 0 | + | 60 |
| | 1:50 | 0 | ++ | 60 |
| | 1:100 | 0 | + | 60 |
| 16 | 1:10 | 0 | + | 60 |
| | 1:50 | 0 | ++ | 60 |
| | 1:100 | 0 | ++ | 60 |
| 12 | 1:50 | Trace | + | 60 |
| | 1:100 | Suggestive | + | 60 |
| 20 | 1:50 | Slight | ++ | 60 |
| | 1:100 | Trace | + | 60 |
| 26 | 1:50 | Slightly Suggestive | Suggestive | 60 |
| | 1:100 | Slightly Suggestive | Suggestive | 60 |
| 1 | 1:30 | 0? | ++++ | 90 |
| 3 | 1:30 | 0? | +++ | 90 |
| 9 | 1:30 | 0 | +++ | 90 |
| 13 | 1:30 | Trace | +++ | 90 |
| 15 | 1:30 | Trace | +++ | 90 |
| | 1:30 | 0 | ++ | 90 |
| 25 | 1:30 | 0 | Slight | 90 |
| 22 | 1:30 | 0 | ++ | 90 |
| 27 | 1:30 | 0 | +++ | 90 |

* Serum taken during first few days of the disease.

As the patients came from different parts of the village of Weyer's Cave, were of different ages and occupations, and were attacked at different times, it seems reasonable to infer that the entire series of cases was caused by the same strain of bacterium.

In attempting to obtain a clew to indicate the presence of some carrier in this epidemic, agglutination tests were made with the blood of 38 individuals, mostly healthy members of households in which cases of fever had developed. Of these 38, 5 (4 adults and 1 adolescent) gave positive reaction with the paratyphoid B.; the other 33 reactions were negative.

A month after the agglutination tests were made at Weyer's Cave, but while cases were still continuing to appear at that point, a mild fever, resembling the disease at Weyer's Cave, broke out in a household about six miles away, attacking five out of six of the family. Through the kindness of Dr. Whitemore, the serum from these patients was examined, and from another patient, living about ten miles from Weyer's Cave, suffering with a severe, typical case of typhoid fever. Serums from the latter patient and two of the members of the above-mentioned family reacted with the typhoid bacillus positively, and gave no agglutination with the paratyphoid B. The other members of the first mentioned household, in whom the disease was of recent development, gave no agglutination with either culture. This indicates that in the vicinity of Weyer's Cave true typhoid was also occurring during last summer.

Several attempts were made to recover the paratyphoid B bacillus from the stools of patients, chiefly by the use of Endo's medium, but without result.

Blood cultures were made from three patients. The first patient had had the fever for over a week, the others for only a few days. About 10 c.c. of blood were divided among several agar and Endo-agar plates, and a part was put in broth and dextrose. The blood from the last case was mixed with sterile ox-bile, incubated, and attempts were made to cultivate the bacillus from the mixture. All of the blood cultures remained sterile.

After the failure to recover the offending organism by workers in the laboratory located in the town of Weyer's Cave, efforts were made to isolate it by Mr. J. A. Waddill, acting bacteriologist of the Virginia State Department of Health, working in the branch laboratory in Staunton. Notwithstanding the fact that five or six cases, apparently favorable as to time, were carefully examined, using Endo's media, no organism resembling typhoid or paratyphoid could be isolated. It is important that at this time studies were also being made of the typhoid fever situation in Staunton, twelve miles from Weyer's Cave. The typhoid bacillus was discovered without difficulty from the Staunton cases, using the same technic and same media as those used in the cases at Weyer's Cave.

### CONCLUSIONS

We believe that there prevailed at Weyer's Cave, Va., during the summer of 1909, an epidemic of a disease which was probably paratyphoid fever. We believe further that the epidemiologic studies failed to give any reasonable explanation as to the means of transmission of the disease.

We believe that this condition was peculiar to the epidemic in question, as further studies in the same neighborhood disclosed the prevalence of a disease which was clinically and bacteriologically true typhoid fever.

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# ABSENCE OF IRITIS AND CHOROIDITIS AMONG SYPHILITICS WHO HAVE BECOME TABETIC

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In the past ten years I have examined the eyes of sixty-one patients where the diagnosis of tabes had been or was subsequently made. In many of these cases, although a previous history of syphilis was strongly suspected, the most careful scrutiny failed to elicit such infection. In examining the eyes of tabetics, bearing in mind the extreme difficulty of obtaining a syphilitic history, I have always searched for the corroborative evidences of a previous syphilitic infection, such as traces of choroiditis, old iritis or chorio-retinitis.

With increasing numbers of tabetics examined, it has been a constant source of wonder to me that, even though syphilis had been a part of the antecedent history of the vast majority of them, I have never been able in any of these cases to find traces of syphilis in the eyes.

Moreover, looking at the matter from another standpoint, I have record of 79 cases of syphilitic iritis and 42 cases of syphilitic choroiditis which occurred after the acquisition of the syphilis in periods varying from six weeks to sixty years in one case, that of a man 83 years old, blind from a disseminated choroiditis. It is true that the majority of these cases soon passed from my observation; many of them, however, I have seen at intervals during the past ten years.

In not a single instance where a syphilitic suffered from iritis or choroiditis have I known the individual afterward to become afflicted with tabes or paresis.

On account of the limited number of cases which have come under my observation, I considered this fact to be a coincidence peculiar to my own practice. It was only, after searching the literature, therefore, and finding that the same coincidence had been noted by Wernicke[1] in regard to tabes and by Wintersteiner[2] in regard to paresis, that I began to attribute some significance to the observation. Wernicke, after noting the fact that he had never seen a tabetic who presented signs of an old iritis or choroiditis, sets down the following dictum: "Syphilitics who have suffered from specific iritis or choroiditis do not acquire tabes." This seems to be a very broad assertion, and he in no wise corroborates it by any facts or figures, and yet my own experience, such as it is, bears out this statement.

Wintersteiner, in examining the eyes of 1,000 patients who were suffering from paretic dementia, most of whom were known to be syphilitic, and all of whom, according to his judgment, were syphilitic, found that, although the optic nerve was involved in 28.5 per cent. of the cases, choroidal changes were present in only 3.86 per cent. of the cases and iritic changes in only 1.76 per cent.; i. e., uveal changes in 5.62 per cent. of the cases, counting both iritis and choroiditis as coming under the head of uveal changes. Roughly speaking, in this series of cases the optic nerve was involved five times as often as the uvea. How remarkable this finding is can best be shown by quoting the following statistics taken at random from the literature:

In 114 cases of syphilitic eye diseases Drewes[3] found the uvea involved 73 times, the optic nerve 4 times; Alexander[4] in 1,385 cases found the uvea involved 331 times, the optic nerve 107 times; Galezowski[5] in 128 cases found the uvea involved 52 times, the optic nerve 31 times; Eveille[6] in 301 cases found the uvea involved 143 times, the optic nerve 58 times; Schubert[7] in 231 cases found uvea involved 156 times, the optic nerve 8 times; Badal[8] in 793 cases found uvea involved 383 times, the optic nerve 139 times; Talbot[9] in 434 cases found the uvea involved 262 times; optic nerve 60 times; Boeck[10] in 139 cases found the uvea involved 126 times, optic nerve 5 times; Stammwitz[11] in 197 cases found uvea involved 40 times, optic nerve 14 times.

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[1] Wernicke: Tabes und Syphilis. Centralbl. f. Augenh., March, 1908.

[2] Wintersteiner: [illegible] bei 1,000 Geisteskranken, Wien. klin. W[illegible]

[3] Drewes: Beitr[illegible] [illegible]philitischen Augenkranken, Diss., Berlin, 1881.

[4] Alexander: Syphilis und Augen, Wiesbaden, J. F. Bergmann, 1893.

[5] [illegible] de la rétine syphilitique et de son [illegible] 7.

[6] [illegible] [illegible]ues sur la syphilis oculaire, Thès[illegible]

[7] [illegible] Augenkrankheiten nach Beobach[illegible] aus der Augen-Klinik, Prof. Cohn in Breslau, Berlin, 1881.

[8] Badal: Recherches sur manifestations oculaire de la syphilis, Arch. d'ophth., 1886, pp. 104-114, 301, 308.

[9] Talbot: Recherches sur la syphilis de l'œil, Thèse de Paris, 1894.

[10] Boeck: Undersogelser angaa[illegible] [illegible]saetelse af Recherches sur la Syphilis ap[illegible] statistique. Christiania, 1875. Quoted in G[illegible] der gesamten Augenheilkunde, Lieferung, [illegible]

[11] Stammwitz: Beitrage zur Statistik der syphilitischen Augenerkrankungen, Diss., Leipzig, 1904.

The total shows that in 3,622 cases of eye disease due to syphilis the uvea was involved 1,566 times, the optic nerve 887 times. Where Wintersteiner in paretics, practically all of whom were syphilitic, found the optic nerve involved about five times as often as the uvea, the findings of other observers of syphilitic eye diseases show the uvea involved almost twice as often as the nerve. The difference here is too great to be merely a matter of accident. Judging from the figures, it would seem that where paresis is present the likelihood of uveal complications as compared to nerve involvement is much reduced. Why should this be?

Wintersteiner advances the hypothesis that in some cases the ectodermic structures are attacked with predilection by the syphilitic poison; in such cases the cerebrospinal system suffers most damage. In other instances the mesodermic structures bear the brunt of the attack, while the ectoderm escapes; in such cases iris and choroid among other mesodermic structures are involved, while the nerve tissue escapes.

In commenting on Wintersteiner's article, von Wagner remarks that he has long noted as a strange coincidence how lightly most paretics have had secondaries and that there seems a certain antagonism between secondaries and paresis. Severe secondaries, little likelihood of paresis, and, *vice versa*, light secondaries, greater danger of paresis. To me Wintersteiner's explanation hardly seems a rational one.

Syphilis is pre-eminently a disease of the blood-vessels. Every syphilitic lesion is due primarily to pathologic changes beginning in the blood vessels. We can hardly concede a theory to be rational which advances the hypothesis of a syphilitic poison virulent enough to cause destructive changes in the blood vessels supplying epiblastic structures, but always sparing those same blood vessels when they supply mesoblastic tissues. Perhaps an explanation better fitting all the facts of the case is one based on Ehrlich's theory of the antibodies. If we think of tabes and paresis as due, not to direct syphilitic insult, but rather to the destructive action of antibodies on cord and brain, and if we consider that where antibodies are present in large numbers, the likelihood of tabes and paresis is much increased, then I think the antagonism between tabes and iritis becomes less mysterious. Where secondaries are severe, antibodies are largely absent. Iritis is essentially a secondary of syphilis; in conditions where we have iritis, antibodies being absent, the danger of tabes is small.

On the other hand, where secondary symptoms of syphilis are kept in check, not by efficient antisyphilitic treatment, but by abundance of antibodies, we have no iritis, but we have imminent danger of tabes. It is, I think, a recognized fact that tabes, and still more paresis, is more common among syphilitics who have had but little effective treatment, and still have not suffered severely from secondaries. Why should this be? In the light of the above explanation, it becomes, I think, clear.
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patients and a culture of *Bacil* have been held in check by

antibodies, and these patients are the ones that later develop tabes or paresis; we get no uveal but rather optic nerve changes. In a nutshell, absence of effective treatment, plus absence of secondaries, spell large quantities of antibodies which enable the uveal tract to escape, but at imminent danger to brain and cord.

Can we draw any practical conclusion from this absence of iritis in syphilitics who become tabetic? I think the number of cases thus far observed is entirely too small to say that a syphilitic who suffers from iritis or choroiditis will escape tabes, and still if this fact is corroborated by further observations it seems to me of practical importance in prognosis.

Many syphilitics, especially the more intelligent ones who are familiar with the fact that tabes and paresis are parasyphilitic diseases, are often possessed of a haunting fear of the future. If it were possible to assure a syphilitic who suffers from iritis (and I have done this in many cases) with a fair degree of positiveness that he will escape tabes and paresis, it would often be a source of great comfort to him. It would also aid the physician in a practical understanding of the case and its possible future outcome.

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# POMPEIAN SURGICAL INSTRUMENTS*

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> Multa renascentur, quae iam cecidere, cadentque
> Quae nunc sunt in honore.—*Horace.*

The poet Horace, who lived shortly before the destruction of Pompeii, has said: "Many things shall be revived which already have perished, and many things shall perish which are now held in honor."

I find this quotation an appropriate motto for an essay on the history of ancient surgical instruments.

In presenting this paper I think it proper to offer an apology for introducing a subject which deviates somewhat from the established rule of a purely medical topic. My theme is rather in the nature of a historical retrospect, a study of the condition of medical science as it presented itself at a time when a tragic fate enwrapped Pompeii in the somber mantle of ashes and cinders for a period of about 1,900 years before the searching hand of a new generation began to remove the horrid and mysterious veil. What it revealed and continues to disclose is both ghastly and inspiring, both pitiful and amazing. On one hand all the horrors attending a sudden wholesale destruction of life, innumerable skeletons of human and animal bodies graphically indicating by the various positions in which they were found their last moments and struggle of life; on the other hand, treasures of incalculable value with regard to ancient art, science and customs.

When toward the second half of the eighteenth century the first excavations were begun the muse of Schiller broke forth in exclamatory strain:

"What wonder here? Of thee, O earth, a fount
Have we invoked; and from thy somber womb
What yieldest thou? Is life in the abyss?
And dwells a new race there till now concealed
Beneath the lava? Doth the past return?
O Greeks, O Romans, come; behold, again
Rises the old Pompeii and reappears
The long-lost town of Dorian Hercules."

An ancient city—buried and entombed for a period of over 1,800 years and again exhumed and uncovered to the wondering gazes of new generations, totally distinct in their character, views, habits and religion from the inhabitants of that doomed community—this is Pompeii, which fell asleep, remained so while ages passed and has awakened in a new world.

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* Read before the Milwaukee Medical Society, May 11, 1909.

There is no other ancient city with which we have so intimate acquaintance.[1] Even the physical aspect of its people, their customs, their household utensils, the mysteries of their worship, everything connected with their daily life, is being presented to us. In vain do we look for such a wealth of traces in ancient cities of a far greater historical importance, as Babylon, Thebes, Jerusalem and even Rome.

Queen among seacoast towns at a time when Rome had reached her highest point of civilization, Pompeii became a favorite resort for the Roman aristocracy, men of wisdom, rank and wealth indulging in pursuit of pleasure and habits of indolence, a light-hearted people, living for the games of the day and the banquet of the morrow.

And as the wandering observer follows in awe-struck thought through the desolate cobblestone-paved streets of the city, peering into its deserted mansions, their walls fresh as if painted yesterday—not a hue faded on the rich mosaics of the floors—in its forum the half-finished columns as left by the workman's hand—in its garden *the sacrificial tripod*—in its halls the chest of treasure, the furniture and priceless works of sculpture—in its *cubicula* the perfumes and the rouge of faded beauty—it is within the scope of imagination to conceive the abandoned abodes and public meeting-places enlivened by a joyous, light-hearted people following every varying fancy of pastime and passion.

The chief interest, however, of the medical practitioner and student of medical history will center in the House of the Physician—*casa del chirurgo*—so called from a find of a number of surgical instruments in the year 1770 and 1771, which are now to be found in that palace of antique treasures, the National Museum of Naples.

Whatever vestige of ancient medical science has been brought to light from the ruins of Pompeii is undoubtedly of Greek origin; for, in spite of the subjection of the Greeks to the political power of the Romans, this unique people preserved its old creative activity and power, vanquished its political conquerors in the sphere of intellect and ruled the Romans in the field of science. Children were expected to learn to speak Greek; Greek teachers were invited to Rome, and the foremost Roman writers of the golden age of Latin literature prided themselves on their familiarity with Greek culture as openly as most of Europe did on its familiarity with French in the eighteenth century.

In philosophy, oratory and historical writing the Romans followed the Greeks, as is manifest from Cicero, Seneca and others.

Whatever great works in sculpture and painting the Romans possessed were the creations of Grecian artists; the same holds true of works on mathematics, mechanics, botany, etc. It is, therefore, easily understood that the Grecian doctrines of medical science completely supplanted and checked the development of the scanty germs of Roman medicine proper.[2] It being an established and generally admitted fact that our present educational system is based for the greater part on the foundation which the ancients have laid, the importance of the knowledge of this basis of our intellectual life is self-evident and the subject claims the earnest consideration of those interested in art, philosophy and natural sciences.

The literature on this subject I have found to be rather limited, the more extensive works on Pompeii giving but a superficial and incomplete mention of the various instruments found.[3]

Dr. Senn,[4] in an article on this subject, describes a limited number of the instruments under consideration. The bulk of my information I derived from a masterly, exhaustive treatise by John Milne.[5]

The finds of ancient Roman instruments during the past centuries in Europe have been numerous, but thoroughly scattered, and the instruments herein described form but a small part of a considerable collection unfortunately too much dispersed. A centralized collection would be ideally adapted to furnish the adequate means of thorough comparative scientific research. As it is, there is scarcely a museum with any number of antique bronzes which does not number among its contents a few surgical instruments, and it is surprising that no attempt has been previously made to systematize and reconstruct the surgical armamentarium of the ancients, instead of merely to issue a series of reports indicating the uses of instruments described.

The most important collections are to be found in the following museums: in England, the British, the Guildhall, the Shrewsbury and Chester museums, many of the specimens in which have been discovered in ancient Roman cities and camps in England; in France, the equipment of Emperor Severus at Saint-Germain-en-Laye, the Louvre, Cluny and Orfila museums, and those in the cities of Montauban, Rouen and Amiens; the instruments found by M. Toulouse in Paris, known as those from the grave of "the surgeon of Paris," are also noteworthy. Museums in Namur, Brussels and Charleroi in Belgium, others in Austria and Athens, the Thorwaldsen Museum of Copenhagen and many museums in Basel, Bern, Schaffhausen and Zurich in Switzerland, contain collections of Greek and Roman instruments very similar in design and intention to the ones under consideration from the museum of Naples.

After these preliminary remarks, which I deem essential for a better understanding of the subject, I proceed to attempt a description of the various instruments reproduced in the accompanying illustrations, which are exact facsimiles of the originals in the National Museum of Naples. These instruments, with the exception of a few additional parts of silver, were made of bronze, a fortunate circumstance for the historian and searcher of antiques, as the metal, on account of its ability to endure oxidation, has withstood the lapse of time. Copper, being much more easily obtained from ore than iron, was first to be used, the Egyptians employing it 6,000 years ago. Hippocrates says: "Use bronze only for instruments, for it seems labored ornamentation to use vessels of it." It is erroneous to assume that the ancients did not make many of their instruments of iron and steel, but the bronze has outlived the iron. The Homeric poems picture a civilization in a state of transition from a bronze to an iron period, and weapons, such as sword, axe and spear, are frequently described as made of iron. Certain instruments, as the cautery, are always spoken of as made of iron, as the name implies.

The destructibility of iron will easily explain the fact that cauteries, which must have existed in enormous numbers, are among the rarest surgical instruments found. It is not generally known that steel entered into the manufacture of metal implements of the ancient Greeks and Romans, although the steel was made in a primitive manner, which is, however, still in vogue in India and China, where a fine quality of steel is procured. As the terms "iron" and "steel" are synonymous in Latin and Greek, modern writers have been inclined to mistake them for another.

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[1] Guhl and Koner: Das Leben der Griechen and Römer, 1872.

[2] Baas: History of Medicine, 1889.

[3] Overbeck, J.: Pompeii.

[4] Senn, Nicholas: Pompeian Surgery and Surgical Instruments, Philadelphia Med. News, December, 1895.

[5] Milne, John Stewart: Surgical Instruments in Greek and Roman times, 1907.

Other metals were occasionally used, as tin for uterine sounds and probes for rectal work, lead for sounds and tubes for intrauterine and rectal treatment, gold for probes for applying salves to the eyes and separating adhesions of the eye to the lid, for opening pustules of smallpox, for burning the roots of hairs in trichiasis, for binding the teeth together with gold wire in fractures of the jaw. Silver was used in forceps, probes, grooved directors, uterine syringes and catheters.

Judging from the great number of probes and sounds unearthed in many parts of Europe, once under the dominion of the great Roman Empire, we are justified in our conclusion that the *tactus eruditus* was well developed among the medical profession of remote antiquity. Three groups of probes and sounds are presented in the Naples collection as follows: The double simple probe (specillum), a plain rod of metal rounded off at either end, tapering at either end to a blunt point (Plate I, Fig. 1). A variation of this probe is the specillum with two olivary ends (Plate I, Fig. 2) frequently mentioned by Galen and Paul of Ægina, who, in speaking of fistula, says: "We must first examine them with a sound if they be straight or with a very flexible 'double olive,' such as those made of tin or the smallest of those made of bronze, if they be crooked." He also refers to its use as a cautery to destroy the roots of the ciliary hairs after epilation. The second group embraces a class of probes similar to the ones just described, one end of which, however, having the shape of a typical spoon, a variety not specially mentioned by any classical writer. It has the same oval nucleus at one end as the simple probe, but the other end widens into the form of a spoon either round or oval shape (Plate I, Figs. 3 and 4), which probably served the purpose of curettes and to mix and apply medicaments. It seems from the large number of similar instruments being found that they were used for lay as well as for medical purposes. Many of them are toilet articles. An interesting discovery of two typical specimens in the grave of a lady artist was made in Vendée in 1847, where, among a number of color-pots and alabaster mortars for mixing colors, was a étui similar to the typical cylindrical instrument case of the ancient surgeon, in which were two spoon probes similar to the ones under consideration. Their great resemblance to the Volkman curette is self-evident.

On close inspection it will be noticed that the shaft of No. 3 is prettily ornamented with longitudinal and spiral fluting. Some have been found with a silver band inlaid in a spiral around the shaft or even entirely gold plating. A third instrument of this class, a ligula type of specillum (Plate I, Fig. 5), is strictly speaking not a surgical instrument, as it seems to have been used by the laity and no doubt also by physicians for making applications to affected parts or extracting from tubes and box ointments, balsams and powders which entered so profusely into the mysteries of the Roman lady's toilet. Related to the foregoing instrument is a spoon about 5½ inches in length, having a bowl nearly one inch in diameter (Plate I, Fig. 6). The instrument shown in Plate I, Figures 7 and 8, were found together. The handles of both are bronze; the scoop and spatula parts are of silver. Vulpes describes these as a lancet for drawing blood and a spoon for collecting and examining the same. These, like those previously mentioned, however, were used for mixing and spreading medicaments, as it is impossible to regard an instrument of silver as a cutting instrument.

The third group comprises the spatula probe (Latin, *spathomele;* German, *Spatelsonde;* Plate I, Figs. 9, 10, 11, 12, 13, 14). Almost every writer mentions the spathomele. It consists of a long shaft, 6 to 7 inches in length, with an olivary point at one end and a spatula at the other. It was a pharmaceutical rather than a strictly surgical instrument. The olive end was used for stirring medicaments, the spatula for spreading them on the affected parts or on lint. With it ointments were applied and again scraped off. The very large numbers in which they are found would indicate that their use was not confined to medical men, as they seemed to have been used by painters to prepare and mix their colors. Although the olive end of the spathomele was too large to admit of its use as a probe for small lesions, it is evident that in exploring large cavities it must have been a valuable instrument. Priscianus alludes to plugging the nares with it, and Leonidas mentions it as a tongue depressor, while Soranus refers to it as a cautery. All of the specimens have the characteristic oar-blade shape, though the outlines vary greatly. In some (Figs. 9, 10 and 11) the blade widens out at the end, so that the tip is broad and rounded; in others the blade slopes to a rounded point or is even pointed (Figs. 12, 13 and 14). The ends of the blade are usually thick and blunt, although some thin and sharp ones have been found, almost suitable for cutting. It is of interest to note in the spathomele (Fig. 12) an eyelet at the proximal end, indicating perhaps the attachment of a handle. This arrangement is followed out in a number of ancient instruments, especially of scalpels (of which unfortunately I was unable to obtain a specimen), in which the knife and handle were not forged in one piece, but united by something very like our aseptic joint. Hippocrates insists on the importance of keeping everything in surgery absolutely clean.

Among the various kinds of forceps the simplest forms consist of a strip of metal bent on itself with the jaws turned inward (Plate I, Fig. 15) and the more elaborate and stronger one (Fig. 16). These seem to have been the typical forceps for epilation, a cosmetic custom which has come down to us from prehistoric times and seems to have been prevalent among all primitive races. In the bronze age the hair was fixed with a broad-jawed forceps and cut off close to the skin by means of a knife or "razor," although no doubt ordinary epilation for superfluous hair was practiced, also as a purely surgical operation for trichiasis consequent on the granular ophthalmia which was so common among the Romans. Several of this type were found in the grave of the oculist Gaius Severus at Rheims. A variation of the above epilation forceps is a large powerful instrument, 7 inches in length (Plate I, Fig. 17), which no doubt has been used as a dissecting or tumor vulsellum, the end of the blades being toothed. It was used whenever it was desired to make traction in any subject, and is mentioned by various writers in excisions of the clitoris, of malignant excrescences, of epulis, of hemorrhoids, etc.

A specimen of forceps which corresponds somewhat to our modern fixation forceps is shown in Plate I, Figure 18, in which the jaws turn to one side at an obtuse angle in a fairly sharp point, concave internally and convex externally. A sliding ring, quadrangular in shape, fixes the jaws after they have been applied. This angled type of forceps may be the one referred to by Paul in his description of the plastic operation on the eyelid for trichiasis, when he directs to raise the redundant skin of the lid with the fixation forcep and cut it off with a scalpel..

The instrument shown in Plate I, Figure 19, resembles a forceps, the unfinished condition of the tips of the handles indicating that they had been inserted into the handles of wood; it seems better suited to grasp some substance inside the bow than between the jaws, and is assumed by Dr. Milne to have been used to extract calculi from the bladder.

An excellent specimen of a sequestrum forceps was found in the House of the Physician. It is 8 inches in length and formed of two crossed branches on a pivot (Plate I. Fig. 20). The handles are square; the jaws are curved and have across the inside of them parallel grooves which oppose each other accurately. It is classed in the *catalogue* as *an instrument* for crushing calculus of the bladder. This is, however, not a manipulation described by the ancients. The only case in which splitting of calculi is referred to is described in Celsus, and then a chisel is said to have been used. Again, this forceps, known as the Pompeian forceps, has been looked on as a tooth-extracter. Although its shape is not otherwise unsuitable for this purpose, its jaws are not particularly adapted for seizing a tooth, as they are not hollowed inside. Whatever the shape of the Græco-Roman forceps was, it seems to have been a handy instrument for many different manipulations. The graceful form of the instrument with its artistically fluted handle is another example of the happy faculty of the ancients of combining *the* beautiful with the useful. Hooks, blunt and sharp, are frequently mentioned in both Greek and Latin literature and served the same purposes as those for which we use them, the blunt for dissecting and raising blood-vessels like the modern aneurism needle, the sharp for seizing and raising small pieces of tissue for excision and for freeing and retracting the edges of wounds (Plate I, Figs. 21 and 22).

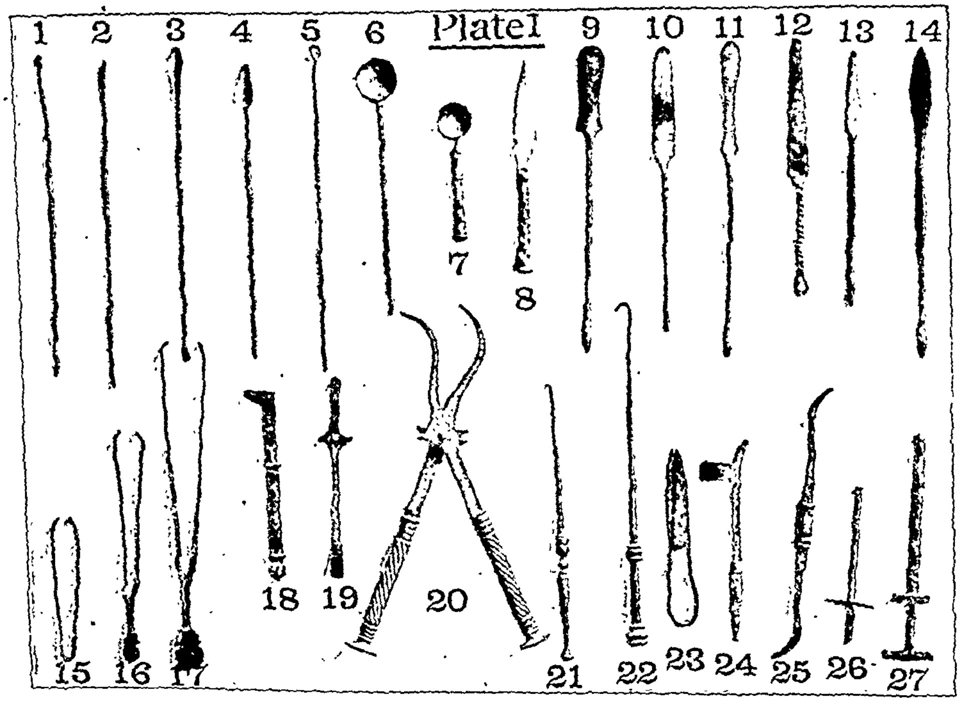

*Plate 1.—Pompeian surgical instruments.* Figs. 1 to 7, probes and spoons; 8, lancet; 9 to 14, spatula probes, sometimes *used as* cautery; 15 to 20, various forms of forceps; 21 and 22, blunt and sharp hooks; 23, scissors; 24, veterinary fleam or phlebotome; 25, bone elevator; 26 and 27, cannulas.

In the Naples Museum alone there are upward of forty examples of hooks. Scissors (Plate I, Fig. 23) made *of steel* or bronze are common objects in museums, and their use is referred to by various old writers. Oribasius and Celsus refer to cutting the hair as a therapeutic measure. A few references are made to the use of *the shears* for cutting tissues, as by Celsus in abdominal injury with protrusion of the omentum, for the radical cure of hernia and the removal of warty *excrescences*.

The instruments shown in (Plate I, Fig. 24) in the catalogue is termed a flammete or fleam for veterinary purposes. As the offices of surgeon and veterinarian were *often fulfilled* by the same individual in Roman times, it is probable that such an instrument was used by the physicians for the operation of phlebotomy. Although venesection is one of the most frequently mentioned operations and the phlebotome so mentioned, there is absolutely no description of this instrument. Galen has three *treatises on the subject*, and Hippocrates frequently mentions it. The phlebotome was used for all sorts of operations, opening of abscesses, puncture of cavities, fine dissecting work, fistula lacrimalis, removal of warts, phimosis, dissection of sebaceous cysts, etc.

The following description of Paul of Ægina (A. D. 625) corresponds to one of the two bone levers in the Naples Museum made of bronze (Plate I, Fig. 25): "It is an instrument of steel, about seven to eight fingers'-breadth in length, of moderate thickness that it may not bend during the operation, with its extremity sharp, broad and somewhat curved." It is 6 inches in length, both ends curved, while one is flattened and the other pointed. A similar instrument was used by Paré for levering up depressed bones; and from what Galen says it may have been used for levering out teeth. That the ancients were intimately acquainted with the surgical treatment of empyema and ascites is shown by two *instruments* of the collection (Plate I, Figs. 26 and 27), both representing cannulas very similar to the ones in use at the present day. The plain, small one consists of a bronze tube, 3½ inches in length, beveled off on *one end*. *This instrument* answers the description of Celsus. The more elaborate form of the cannula for ascites is seen in the other specimen, a tube 3¾ inches in length, one end rounded off and closed except for a small hole near *its* tip, the proximal end carrying a circular plate, ⅞ *inch* in length, which carries on its end a *small* handle attached in a T fashion. To all appearances the cannula was to be inserted after an *incision* was made by a scalpel, to be closed after the abstraction of a certain amount of fluid. Hippocrates says:

> After opening let pus out once a day. After the tenth day when everything has been evacuated, flush with wine and tepid oil. At night let out what you have put in and when the pus becomes *thin* and watery insert a hollow thin tube.

the manufacture of metal implements of the ancient Greeks and Romans, although the steel was made in a primitive manner, which is, however, still in vogue in India and China, where a fine quality of steel is procured. As the terms "iron" and "steel" are synonymous in Latin and Greek, modern writers have been inclined to mistake them for another.

Other metals were occasionally used, as tin for uterine sounds and probes for rectal work, lead for sounds and tubes for intrauterine and rectal treatment, gold for probes for applying salves to the eyes and separating adhesions of the eye to the lid, for opening pustules of smallpox, for burning the roots of hairs in trichiasis, for binding the teeth together with gold wire in fractures of the jaw. Silver was used in forceps, probes, grooved directors, uterine syringes and catheters.

Judging from the great number of probes and sounds unearthed in many parts of Europe, once under the dominion of the great Roman Empire, we are justified in our conclusion that the *tactus eruditus* was well developed among the medical profession of remote antiquity. Three groups of probes and sounds are presented in the Naples collection as follows: The double simple probe (specillum), a plain rod of metal rounded off at either end, tapering at either end to a blunt point (Plate I, Fig. 1). A variation of this probe is the specillum with two olivary ends (Plate I, Fig. 2) frequently mentioned by Galen and Paul of Ægina, who, in speaking of fistula, says: "We must first examine them with a sound if they be straight or with a very flexible 'double olive,' such as those made of tin or the smallest of those made of bronze, if they be crooked." He also refers to its use as a cautery to destroy the roots of the ciliary hairs after epilation. The second group embraces a class of probes similar to the ones just described, one end of which, however, having the shape of a typical spoon, a variety not specially mentioned by any classical writer. It has the same oval nucleus at one end as the simple probe, but the other end widens into the form of a spoon either round or oval shape (Plate I, Figs. 3 and 4), which probably served the purpose of curettes and to mix and apply medicaments. It seems from the large number of similar instruments being found that they were used for lay as well as for medical purposes. Many of them are toilet articles. An interesting discovery of two typical specimens in the grave of a lady artist was made in Vendée in 1847, where, among a number of color-pots and alabaster mortars for mixing colors, was a étui similar to the typical cylindrical instrument case of the ancient surgeon, in which were two spoon probes similar to the ones under consideration. Their great resemblance to the Volkman curette is self-evident.

On close inspection it will be noticed that the shaft of No. 3 is prettily ornamented with longitudinal and spiral fluting. Some have been found with a silver band inlaid in a spiral around the shaft or even entirely gold plating. A third instrument of this class, a ligula type of specillum (Plate I, Fig. 5), is strictly speaking not a surgical instrument, as it seems to have been used by the laity and no doubt also by physicians for making applications to affected parts or extracting from tubes and box ointments, balsams and powders which entered so profusely into the mysteries of the Roman lady's toilet. Related to the foregoing instrument is a spoon about 5½ inches in length, having a bowl *nearly one inch* in diameter (Plate I, Fig. 6). The instrument shown in Plate I, Figures 7 and 8, were found together. The handles of both are bronze; the scoop and spatula parts are of silver. Vulpes describes these as a lancet for drawing blood and a spoon for collecting and examining the same. These, like those previously mentioned, however, were used for mixing and spreading medicaments, as it is impossible to regard an instrument of silver as a cutting instrument.

The third group comprises the spatula probe (Latin, *spathomele;* German, *Spatelsonde;* Plate I, Figs. 9, 10, 11, 12, 13, 14). Almost every writer mentions the spathomele. It consists of a long shaft, 6 to 7 inches in length, with an olivary point at one end and a spatula at the other. It was a pharmaceutical rather than a strictly surgical instrument. The olive end was used for stirring medicaments, the spatula for spreading them on the affected parts or on lint. With it ointments were applied and again scraped off. The very large numbers in which they are found would indicate that their use was not confined to medical men, as they seemed to have been used by painters to prepare and mix their colors. Although the olive end of the spathomele was too large to admit of its use as a probe for small lesions, it is evident that in exploring large cavities it must have been a valuable instrument. Priscianus alludes to plugging the nares with it, and Leonidas mentions it as a tongue depressor, while Soranus refers to it as a cautery. All of the specimens have the characteristic oar-blade shape, though the outlines vary greatly. In some (Figs. 9, 10 and 11) the blade widens out at the end, so that the tip is broad and rounded; in others the blade slopes to a rounded point or is even pointed (*Figs. 12, 13 and 14*). The ends of the blade are usually thick and blunt, although some thin and sharp ones have been found, almost suitable for cutting. It is of interest to note in the spathomele (Fig. 12) an eyelet at the proximal end, indicating perhaps the attachment of a handle. This arrangement is followed out in a number of ancient instruments, especially of scalpels (of which unfortunately I was unable to obtain a specimen), in which the knife and handle were not forged in one piece, but united by something very like our aseptic joint. Hippocrates insists on the importance of keeping everything in surgery absolutely clean.

Among the various kinds of forceps *the simplest forms* consist of a strip of metal bent on itself with the jaws turned inward (Plate I, Fig. 15) and the more elaborate and stronger one (Fig. 16). These seem to have been the typical forceps for epilation, a cosmetic custom which has come down *to us from* prehistoric times and seems to have been prevalent among all primitive races. In the bronze age the hair was fixed with a broad-jawed forceps and cut off close to the skin by means *of a* knife or "razor," although no doubt ordinary epilation for superfluous hair was practiced, also as a purely surgical operation for trichiasis consequent on the granular ophthalmia which was so common among the Romans. Several of this type were *found* in the grave of the oculist Gaius Severus at Rheims. A variation of the above epilation forceps is a large powerful instrument, 7 inches in length (Plate I, Fig. 17), which no *doubt* has been used as a dissecting or tumor vulsellum, the end of the blades being toothed. It was used whenever it was desired to make traction in any subject, and is mentioned by various writers in excisions of the clitoris, of malignant excrescences, of epulis, of hemorrhoids, etc.

A specimen of forceps which corresponds somewhat to our modern fixation forceps is shown in Plate I, Figure 18, in which the jaws turn to one side at an obtuse angle in a fairly sharp point, concave internally and convex externally. A sliding ring, quadrangular in shape, fixes the jaws after they have been applied. This angled typ

I doubt whether this description applies correctly to this particular instrument, as it will not explain the large eyelet, which would indicate its use as a seton-needle.

A meditative glance over the instruments of this collection and similar ones gives the impression that surgery at the time of the destruction of Pompeii was confined, to a great degree, to minor surgery, and that the art of surgery in respect to more important operations, as indicated by the description of operations and instruments, compared with modern achievements, was coarse and undeveloped. Truly we find that at this period Cesarean section, extirpation of the uterus, laparotomy, lithotomy, excision of the kidneys, herniotomy, and plastic operations were performed, but that the limited knowledge of anatomy and physiology was a hindrance to successful major operations.

To antisepsis and anesthesia are due a complete revolution of earlier methods and complete reversal of mortuary statistics; to these discoveries the human race owes more of the prolongation of life and relief of suffering than can be estimated or terminated in words.

Little by little during the past ages the building-ones were added to the foundation laid by the ancients the construction of our present monumental edifice of odern surgery, in spite of innumerable hindrances cited by ignorance and malice, until now at the beginng of the twentieth century "the seeing portion of ealing art," as Chamisso terms it, is approaching an xact science to which every other branch of science has een made tributary.

2300 Grand Avenue.

# TREATMENT OF DIFFUSE SUPPURATIVE PERITONITIS

## WITH SPECIAL REFERENCE TO ENTEROCLYSIS AND DRAINAGE THROUGH THE CECUM *

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Since the dawn of the era when the abdominal cavity began to be invaded, the fear of peritonitis has been the dominant factor retarding the advancement in this field of surgery.

After the discovery of the germ theory of infection the fear was of the liability of infection from without, but after the perfection of methods calculated to avoid infection from without the surgical mind was dominated by a dread of infection from pathologic material found within the cavity, and in late years the sole purpose has been to formulate a rational pathology and treatment that would enable us to cope successfully with this condition. These efforts have been so abundantly rewarded that to-day we are usually able to suspect or to diagnose diffuse suppurative peritonitis in its earliest stages and to enter on its treatment with an assurance that a vast majority of the patients may be saved.

In infection of the peritoneum there are complications that we now dread more and deal with less successfully than suppurative peritonitis, viz., pylephlebitis involving the ileocecal and portal veins, with multiple thrombotic infection of the liver and spleen and retroperitoneal infections, conditions occasionally met in appendicitis and in perforating or suppurating conditions of the abdominal viscera or tissues.

The treatment of diffuse suppurative peritonitis may be formulated under four heads as follows:

1. Releasing from the peritoneal cavity infectious material held under pressure.

2. Repair or correction with the greatest speed and the least intra-abdominal manipulation possible the lesion responsible for the infection.

3. Drainage of the peritoneal cavity, an important feature of which is maintaining the patient in Fowler's position.

4. Dilution and elimination of toxins and anticipating shock by the introduction of large quantities of physiologic salt solution into the circulation, best accomplished by some form of enteroclysis.

It is an old axiom that when pus is found it should be removed. We have learned, however, that pus in itself is not a dangerous element; that it is only when held under pressure that absorption occurs sufficiently to cause serious symptoms, and that even when absorption does occur the symptoms produced are due to entrance into the circulation of micro-organisms and their toxins floating in the fluid or encompassed by the leucocytes in their phagocytic action.

Pus, in fact, is an element of safety, indicating an attempt on the part of Nature to protect the body from invasion of organisms and their products dangerous to life. Therefore, when we encounter pus in the abdominal cavity we are not filled with consternation, as operators were under such conditions in former days.

This knowledge, together with that obtained by animal experimentation in regard to the absorption of bacteria in the peritoneal cavity, lays the foundation for a rational procedure in dealing with pus in the free abdominal cavity and for reducing intra-abdominal manipulations to the minimum. Handling the intestines in an effort to free the abdominal cavity from pus distributes bacteria in the direction of the diaphragm where absorption is most likely to occur.

Pus held under pressure should be released by incision, but the surgeon should not be guilty of the crime of mopping and irrigation. No effort need be made to get rid of the pus; Nature will take care of it if proper drainage is established.

We cannot be reminded too often of the experiments of Buxton[1] and other investigators regarding the absorption of bacteria by the peritoneum.

In these experiments on animals, typhoid and colon bacilli were introduced into the peritoneal cavity. Within five minutes they were found in the blood in great numbers, also in lesser numbers in the liver and spleen. A great number were found in the lymph-nodes of the anterior mediastinum, which they reached from the diaphragm, where absorption occurs most rapidly. It was demonstrated that there was practically no absorption by any other part of the peritoneum besides the diaphragm and omentum; the parietal, visceral and mesenteric peritoneum did not seem to possess this power to any considerable degree.

It was also observed that death did not result from the absorption of bacteria or cocci themselves, but from the toxins within these organisms (endotoxins) liberated by the destruction of micro-organisms in the blood. In streptococcal infection death does not occur so soon as with typhoid or colon bacilli infection, because the cocci are destroyed less rapidly; consequently more time must

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* Read before the Tri-State Medical Society (Illinois, Iowa and Missouri), Quincy, Ill., Sept. 14-15, 1909.

[1] Buxton, B. H.: Jour. Med. Research, 1906, xv, 3; 1907, xvi, 17.

elapse—at least twenty-four hours—for their extensive multiplication and reinfection of the blood.

If absorption of micro-organisms occurs almost wholly by the peritoneum of the diaphragm, it is evident that mopping and irrigation will spread infection toward the diaphragm and lessen the chances of the patient's recovery. For the same reason, if the patient is put in the Fowler position, his chances for recovery are increased.

Drainage of the peritoneal cavity is accomplished by placing a rubber tube in the costal gutter below the kidney and one or two good-sized drains into the pelvis. The patient is then placed in the Fowler position and maintained in this position for three or four days, or until the symptoms of sepsis disappear.

We cannot overestimate the importance of keeping the patient in Fowler's position, and yet its accomplishment is attained with some difficulty. A number of kinds of apparatus have been devised for the purpose of procuring drainage, including the arm-crutches of Eisendrath, McGuire's device for elevating the head of the bed and my double inclined plane apparatus (Fig. 1). These are all useful and may be employed successfully, but one cannot always have such appliances at hand. A simple appliance always at hand is a necessity. For ordinary cases a bed-sheet may be used, folded diagonally and re-enforced in the middle by placing over it, like a saddle, a thick pad, which is placed against the buttocks and posterior surfaces of the thighs, and the ends of the sheets tied to the bed-posts near the mattress (Fig. 2).

In a paper[2] read before the Illinois State Medical Society, May 19, 1909, I spoke of some of the difficulties attending the administration of physiologic salt solution by proctoclysis as recommended by Dr. Murphy, and of the possibility of giving this solution directly into the colon through the appendix or through an incision in the cecum.

In a case of acute perforating gastric ulcer of forty hours' standing,[3] Lennander, of Upsala, who operated successfully, besides doing a temporary gastrostomy, placed a drainage-tube through an incision into the cecum and retained it there five weeks. This operation ("typhostomy"), Lennander says, helps to prevent paresis of the intestines and affords an efficient means of supplying nutrition.

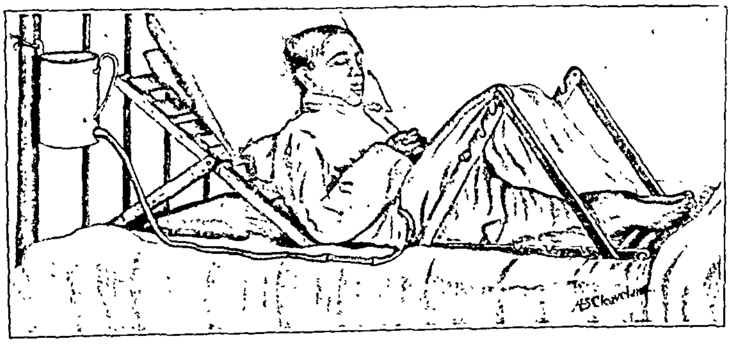

Fig. 1.—Double inclined plane shoulder-and-leg rest for maintaining patient in Fowler's position.

This procedure of Lennander, together with the previous suggestion of Weir, that the appendix could be used in like manner for irrigating the colon in cases of amebic dysentery and mucous colitis, suggested to my mind the feasibility of employing the same method for enteroclysis in diffuse suppurative peritonitis.

I have employed this method in two cases.[4] One was a case of acute perforating gastric ulcer, in which I operated at the Rockford City Hospital, May 21, 1909, twenty-four hours after the perforation occurred. The other was a case of acute perforating gangrenous appendicitis, in which I operated at the same hospital, May 22, 1909, two days after perforation. Both cases were complicated with diffuse suppurative peritonitis. In the first case the patient made a good recovery. In the appendix case the patient died five weeks after operation from multiple abscess of the liver due to pylephlebitis involving the ileocecal and portal veins. There was *no attempt in either case on the part of the peritoneum* to limit the spread of infection. In the case of perforated stomach the pelvis and lower abdomen were filled with pus and gastric contents.

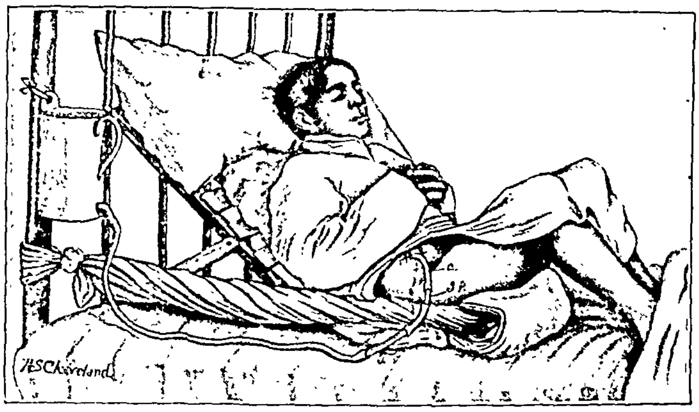

Fig. 2.—Patient held in Fowler's position by twisted sheet. By using comforts and pillows the shoulder-rest may be dispensed with. C, catheter held in cecum by sutures; I. P., glass irrigating point; T, thermometer. Temperature of solution 100 to 110 F.

In the appendix case, pus was free in the abdomen, and, besides a gangrenous and perforated appendix, the tissues of the lower cecum showed a reduced vitality. Yet the peritonitis in both cases disappeared very rapidly under this treatment. Normal bowel movements began within nineteen to twenty-four hours after the operation, and the amount of salt solution introduced into the colon had to be reduced on account of frequency of bowel evacuations.

An important feature in this method of enteroclysis is the employment of the catheter in the cecum as a means of draining and irrigating the alimentary canal. A pint to a pint and a half of salt solution was slowly introduced into the colon every two hours. But each time the solution was introduced the hemostatic forceps that clamped the catheter during the intervals was released and free liquid fecal evacuations were secured through the catheter into the pus basin. By this procedure much gas and bacteria-laden feces were withdrawn from the intestine.[5] It is of especial importance to continue this procedure until free bowel evacuations are secured through the rectum.

In both of my cases the appendix was amputated, the catheter introduced into the colon through the appendix stump and secured by a linen purse-string suture at its base. But the same results may be secured by making a small incision in the anterior wall of the cecum and introducing the catheter through this artificial opening. The cecum is secured in its position by two catgut sutures which pass through the parietal peritoneum and through the serous and muscular coats of the intestine (Fig. 3).

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[2] Allaben, J E.: Surgical Treatment of Perforating Gastric and Duodenal Ulcer with report of a Case of Perforating Gastric Ulcer; Recovery, Ill. Med. Jour., August, 1909.

[3] Lennander, K. G.: Temporare Gastrostomie bei Magen- oder Duodenal-Geschwüren, besonders bei perforierten Geschwüren mit ... Deutsch Ztschr. f. Chir., 1908, xc, 297.

[4] Three days after my paper was read, an article was published by Dr. Charles A. L. Reed, of Cincinnati (The Journal A. M. A., May 22, 1909, p. 1659), entitled *Cecostomy and Continuous Coloclysis in General Peritonitis and Other Conditions*. Dr. Reed recommends that cecostomy rather than appendicostomy should be adopted as the operation of choice.

[5] If preferred, the hemostatic forceps may be discarded and the colon drained through the catheter into a pus basin or into a receptacle, beneath the bed.

### OBJECTIONS TO THE OPERATION

Three possible objections to this procedure suggest themselves:

1. Leakage of physiologic salt solution and feces into the peritoneal cavity.
2. Complications from a fixed condition of the cecum.
3. Persistent fecal fistula.

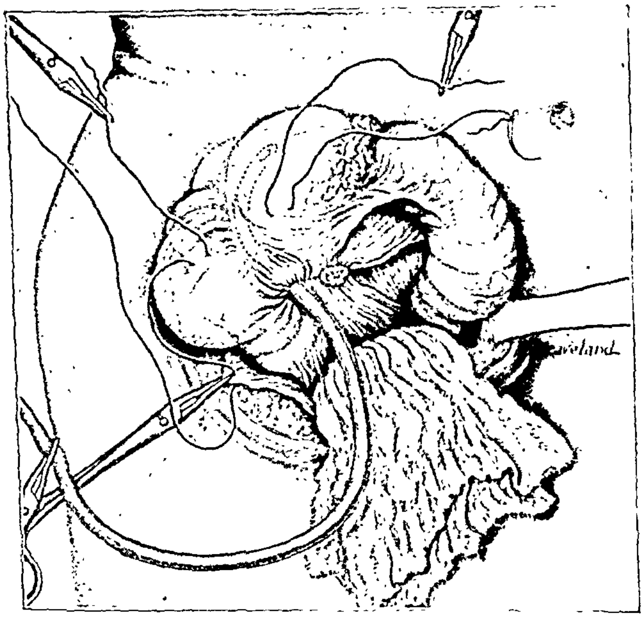

Fig. 3.—Catheter inserted into cecum through stump of appendix and secured by purse-string suture. On one side is shown stay suture passing through parietal peritoneum and serous coat of cecum ready to tie after the intestine has been replaced within the abdomen. The appearance of wound after operation, and method of giving salt solution, are shown in Figure 2.

As an extra precaution against leakage a fine catgut suture is passed through the serous and muscular coat of the cecum or appendix stump and through the wall of the catheter, so that the catheter cannot be displaced during movements of the cecum.

The relation of the cecum to other viscera is such and naturally so limited in its movements that intestinal obstruction or other complications could hardly occur as a result of being fixed by suturing.

The fear of persistent fecal fistula has a more rational foundation.

In my fatal case a fistula, through which considerable quantities of fecal matter discharged, persisted until death, the illness covering a period of five weeks. In this case, however, the vitality of the cecum was much impaired by the local and constitutional infection, which caused necrosis of the tissue, held in the grasp of the purse-string suture causing it to slough away, leaving an unusually large opening. Where the stump of the appendix can be utilized, the danger of fistula, I believe, is less than where an incision is made into the cecum. It is likely that with greater experience a technic will result rendering persistent fistula improbable. Many cases of diffuse suppurative peritonitis are so desperate that the possibilities of a secondary operation for the relief o fistula is of minor importance.

### ADVANTAGES OF THE OPERATION

1. Large quantities of hot normal salt solution may be rapidly introduced into the circulation, immediately after operation, overcoming shock, quenching thirst and eliminating toxins.
2. The solution is brought immediately into contact with that portion of the alimentary canal most favorable for absorption.
3. Intestinal paresis from gas retention is avoided and early normal evacuation of the bowels secured.
4. Early relief of toxemia is secured by drainage through the catheter of bacteria-laden feces.
5. The unpleasant and uncertain features of proctoclysis are eliminated, and predigested foods may be administered in definite quantities.

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# CENTRAL FLAP IN EXPOSURE OF BRAIN

## EXPERIMENTAL STUDY ON MONKEYS *

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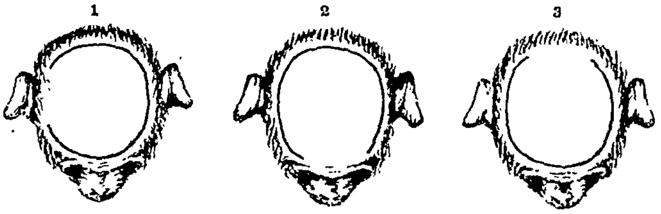
The history of craniotomy, the oldest known operative procedure, extends back into the dim stone ages, as shown by the mute but conclusive evidence of operative interference in collected prehistoric skulls to be seen in several bureaus of ethnology.

The older writers, including Hippocrates, refer to the great antiquity of the operation, but of course, they never dreamed that it could be traced back with the earliest relics of man. The ancients used the operation for letting out evil spirits, bad humours, in order to relieve violent, uncontrollable headaches, etc.

The technic of the operation and indications for its use are given by many of the medical authors of medieval times, and of those of the Renaissance. Others than medical writers also refer to the operation.

Balsac in his work on Katherine de Medici interestingly describes the famous Ambroisé Paré at his midnight lamp, experimenting in trepanning a newly dug up skull preparatory to an intended mastoid operation on King Francis II. Katherine, however, wishing her son's death, objected to having his skull pierced as if it were a piece of board.



Figs. 1, 2 and 3.—1. Temporal flap. 2. Occipital flap. 3. Frontal flap.

Except for the modifications of the instruments used, from the stone flint to the modern trephine, the operation itself remained the same for ages until Wagner, to whom not enough credit can be given, preceded by Wolf's animal experimentations in introducing the bone flap, with one bold stroke revolutionized cranial surgical technic, making possible the phenomenal work of Krause, Hartley, Cushing and others.

The object of this research by us was to ascertain whether extensive central flaps for wide exposure of brain could be made. Very large flaps were cut, including almost the entire vault of the skull.

Three types of flaps were used: a frontal, a temporal, and an occipital (Figs. 1, 2 and 3).

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* From the Hul [illegible] iological Laborat [illegible]

African monkeys of the species *Rhesus* were used.

Experiment 1.—July 15, 1909. Female *Rhesus*.

*Anesthesia.*—Ether.

*Operation.*—After the most careful preparation a temporal flap incision was made as in Figure 1 down to the bone, which was opened by trephine and Gigli-saw and broken on the side of the flap. There was no injury to the longitudinal sinus. Flap replaced. Very little ether was needed. Extremities tied and dressing applied.

*Postoperative History.*—Second day after operation the other monkeys, reaching through from the next cage, tore off the dressing, pulling out a few stitches on the anterior limb of the incision. Wound otherwise perfect. No edema. Later, in healing, the wound separated where the stitches were torn out, and as it refused to granulate over it was sutured and healed with primary union. Except for some slight sluggishness the first few days after the operation, the monkey appeared as well as usual. December 15, the animal was used for other experimental work and died two days later.

*Post-mortem.*—Prof. A. J. Karlson, who performed the autopsy, found that the flap had united firmly. There were no sequestræ, and no dural adhesions.

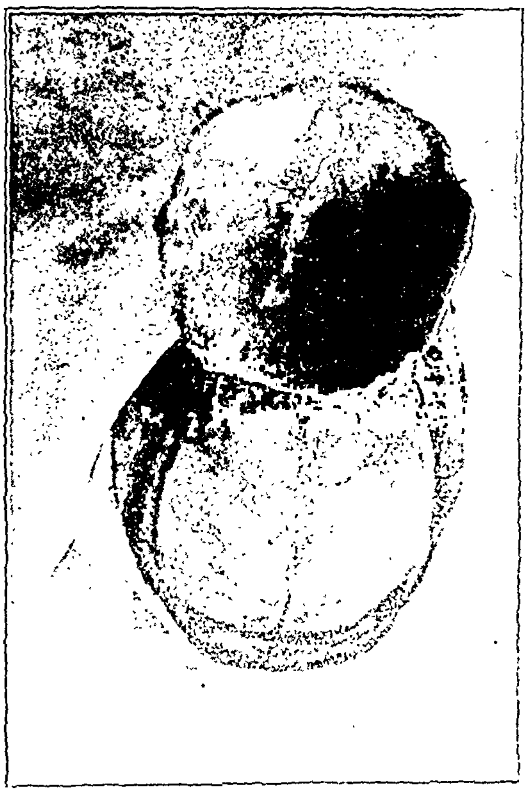

Fig. 4.—Photograph showing wide extent of flap.

Experiment 2.—July 24, 1909. Male *Rhesus*.

*Anesthesia.*—Ether.

*Operation.*—In this case we used the frontal flap (Fig. 3). Technic as in the previous case. No injury to sinuses. Very little anesthesia needed.

*Postoperative History.*—Wound healed with primary union. Animal shows no untoward symptoms from the operation.

Experiment 3.—August 16, 1909. Female *Rhesus*.

*Anesthesia.*—Ether.

*Operation.*—Occipital flap; no injury to sinuses. Very little anesthesia used.

*Postoperative History.*—Wound healed with primary union. Died five weeks after operation from pulmonary and intestinal tuberculosis.

*Post-mortem.*—Bone flap was healing nicely; no sequestræ and no dural adhesions.

The experiments are few but sufficient to demonstrate that large cranial flaps may be made successfully in monkeys and probably also in man.

These animals are very easily kept under anesthesia, and take very little ether.

In buying monkeys let the seller guarantee the health of the animal, as many have pulmonary tuberculosis.

# GUTTA-PERCHA TISSUE IN SURGERY

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Having observed that the men in general practice with whom I come in contact are for the most part unfamiliar with the use of gutta-percha tissue in surgery, I felt that it might be worth while to call attention to this agent.

This unfamiliarity is explained by the fact that practically nothing is said about gutta-percha tissue in textbooks of surgery, and that past and current medical literature presents the same dearth of information on the subject.

In order that the experience of others might be included in this presentation, inquiries as to its use were sent to a number of men prominent in surgical work, in the United States, Canada and England. Forty-nine replied. Of this number, twenty-six make use of it in various ways and find it satisfactory. One considers it inferior to oiled silk because of its impervious quality. One believes it insanitary because it cannot be boiled. Four employ it only for cigarette drains. Sixteen, or one-third of those replying, state that they have had no experience with it and can give no information concerning its uses.

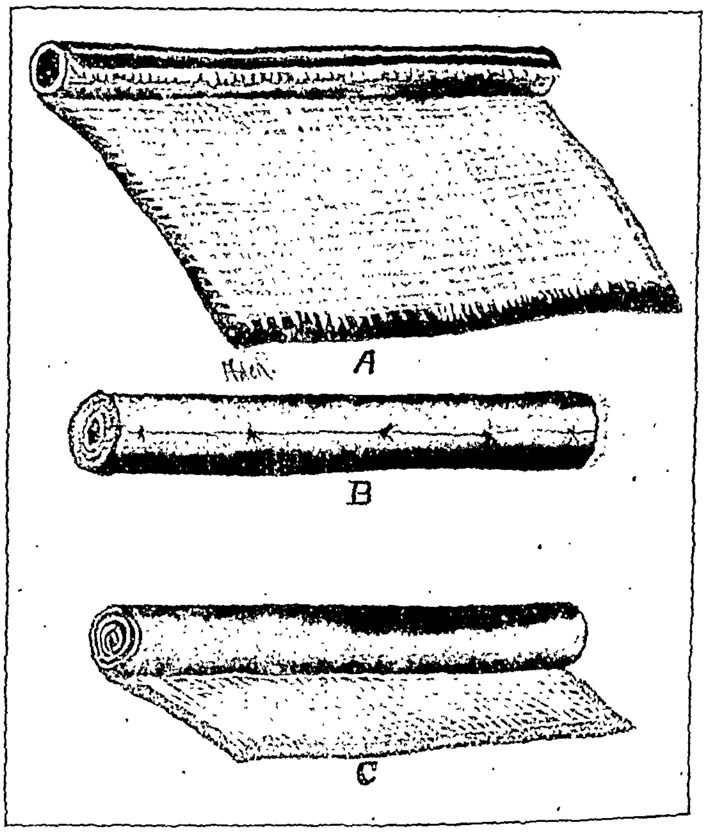

Fig. 1.—A, method of wrapping rubber tube with gutta-percha tissue and gauze; B, same completed for gall-bladder drain, showing interrupted catgut sutures; C, simple laminated drain gutta-percha tissue and gauze.

In the few instances in which mention is made of gutta-percha, it is spoken of as rubber tissue, which is misleading to many, as gutta-percha and rubber are substances of different nature and possess entirely different qualities.

Gutta-percha is unique, in that it is available for more uses than any other one material required by the surgeon for the repair and preservation of body tissue. If the direction of the fibers be followed, gutta-percha tissue will tear in a straight line without the use of scissors.

To wash gutta-percha tissue, hot water must not be used.

It is a well-established principle in surgery that repair of tissue is fostered by protective agents, in proportion as such agents are free from chemical or traumatic influences. Of the several articles available for drainage and protection of adjacent structures, gutta-percha tissue, because of its possession of these properties, is a valuable aid in surgical work. The non-irritating qualities of gutta-percha tissue attracted my attention, and induced me to use it in divers ways, that after a wide experience, have convinced me of its utility in many fields, of its value to the surgeon and the assurance of desired results.

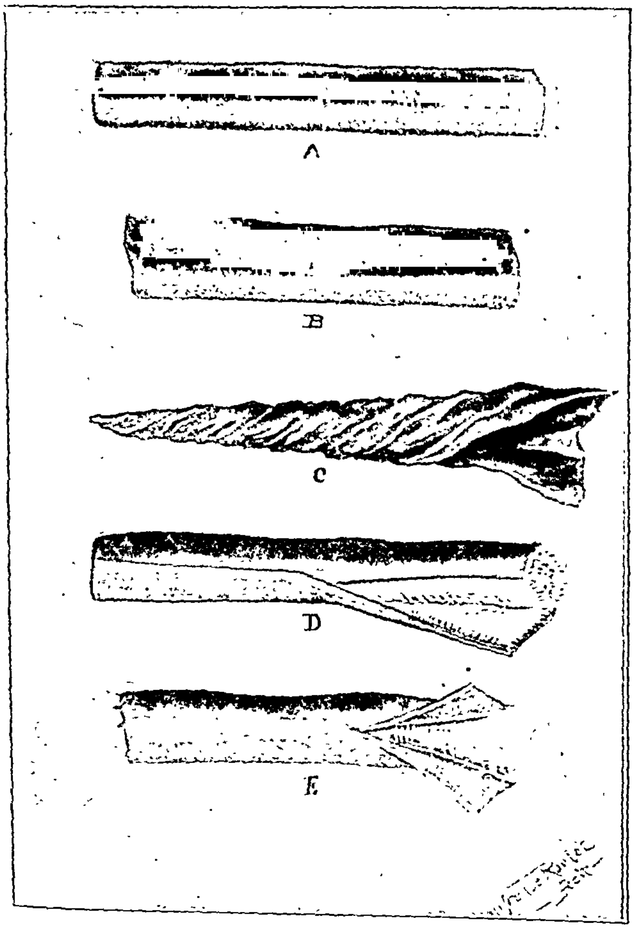

Fig. 2.—A, simple cigarette drain; B, simple cigarette drain, gauze projecting, used for tampon and drain; C, gutta-percha tissue spiral drain; D, simple cigarette partly opened, showing structure of A; E, partly opened showing structure of B.

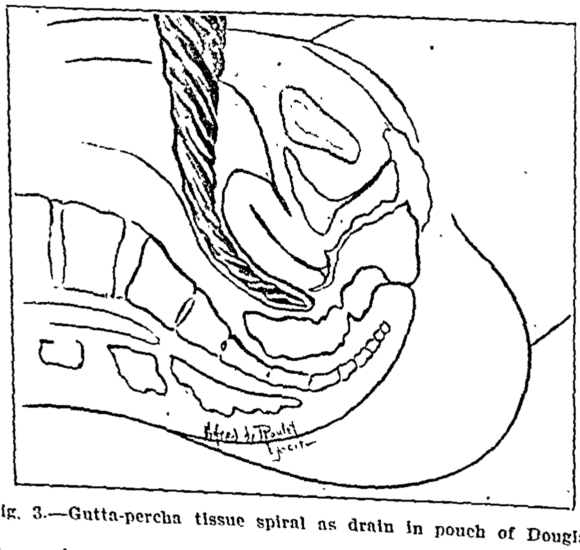

Fig. 3.—Gutta-percha tissue spiral as drain in pouch of Douglas.

Gutta-percha is a vegetable product, derived from the inner bark and leaves of a tree that was formerly supposed to be limited in its distribution to a territory extending from 92 to 119 degrees east longitude, and from 6 north to 6 south latitude. In 1903 the United States government commissioned Dr. L. Sherman Pennoyer, Jr., to make some investigations regarding gutta-percha. Dr. Pennoyer learned that gutta-percha was found also in the Philippines, Celebes, Java and the northern half of the Malay Peninsula.

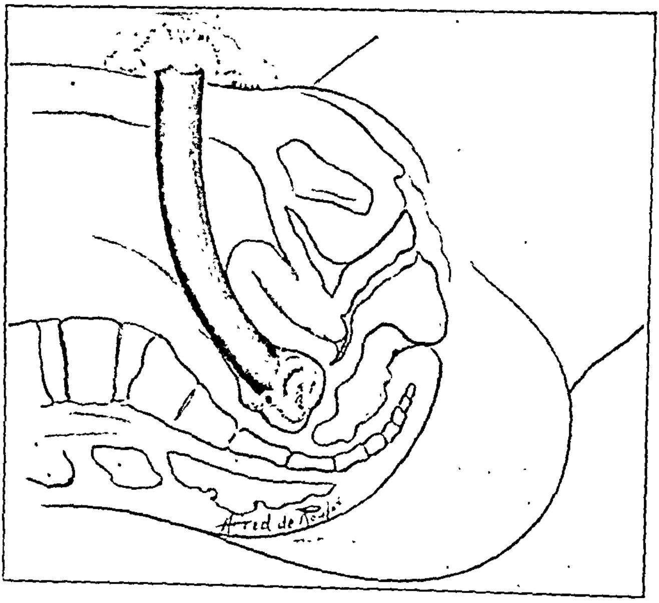

Fig. 4.—Cigarette drain made with gauze extension, in pouch of Douglas.

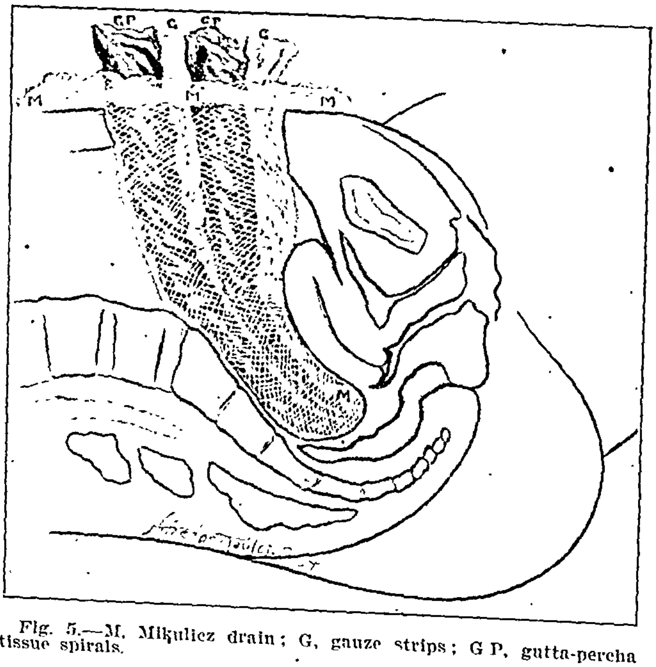

Fig. 5.—M, Mikulicz drain; G, gauze strips; G P, gutta-percha tissue spirals.

A great deal of confusion and financial loss has occurred in commerce because of the mistake of considering gutta-percha and rubber identical substances. While there are points of similarity between them, the difference is such that they are not available for the same uses. Of the po[illegible] difference [illegible]ay be noted that the one is elastic, the other plastic; that rubber can be vulcanized, but gutta percha is refractory to such treatment.

Gutta-percha was first brought to Europe in 1656 by John Tradescant, traveler, scientist and naturalist, who was head gardener to Charles I. Tradescant called it "mazer wood" and, although it attracted some attention as a curiosity, it was not considered an article of practical value.

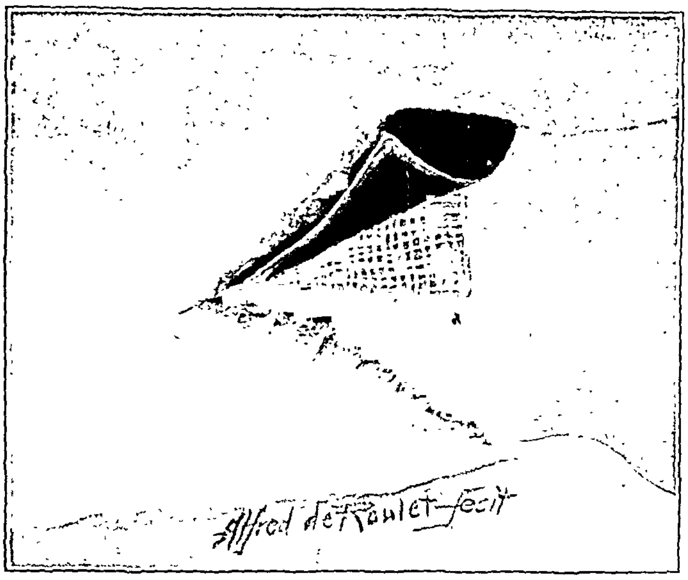

Fig. 6.—Plan of moist or dry occlusive dressing; ends open, showing arrangement.

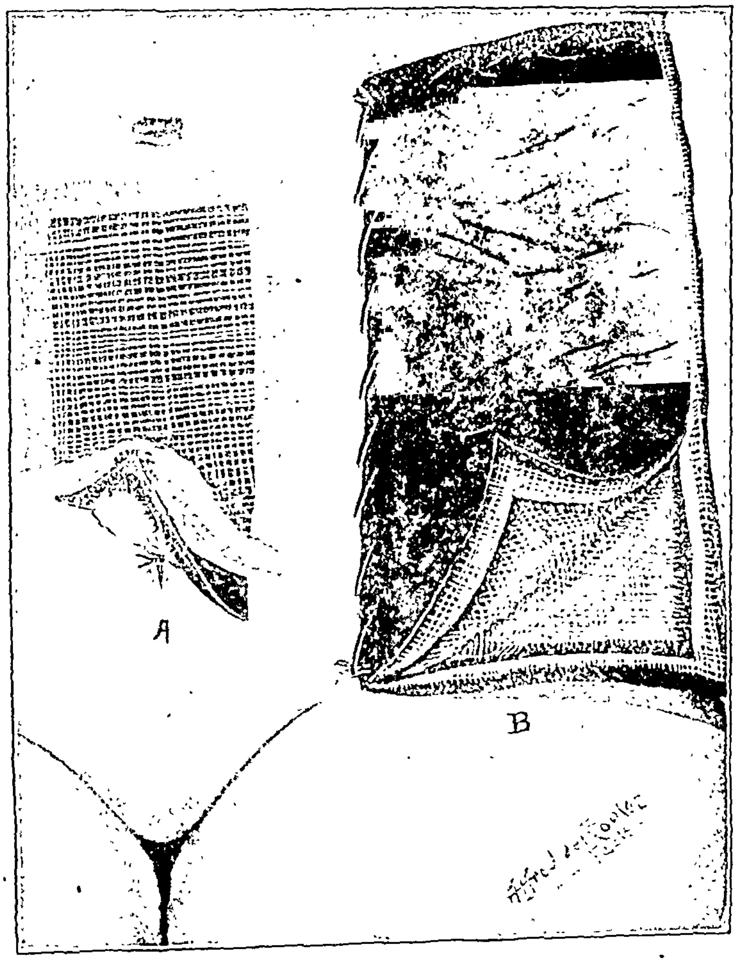

Fig. 7.—A, cotton, gutta-percha tissue and gauze, sealed with collodion, to protect abdominal incision; B, pad for isolating infected wound.

Almost two hundred years elapsed before gutta-percha was again brought to the notice of western civilization, when it was given a prominence that was not sustained by subsequent experience.

In 1832 there was stationed at Singapore, as English resident physician, Dr. William Montgomery, an observing man, who noticed that the natives used gutta-percha for whips and handles of tools. Discovering that immersion in hot water rendered it susceptible to being molded into different shapes which were retained on cooling, he conceived the idea of making surgical appliances that might take the place of those made of caoutchouc, which tended to become soft and useless in the warm climate of Singapore. In 1843 Dr. Montgomery reported the results of his experiments with gutta-percha to the Medi-

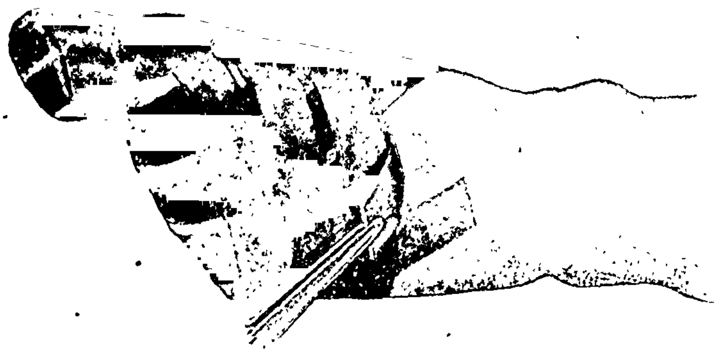

Fig. 8.—Gutta-percha tissue strips used for protecting Thiersch grafts, one strip turned back to show graft.

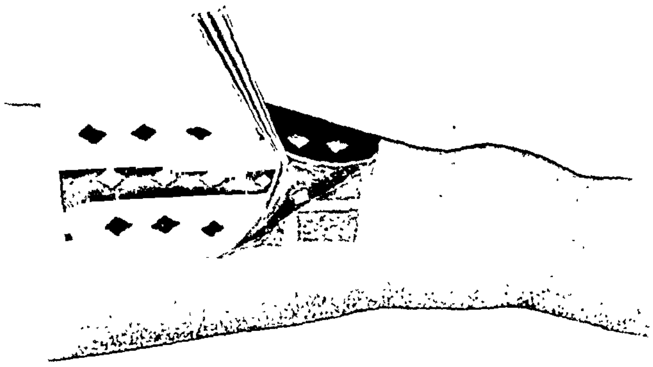

Fig. 9.—Perforated gutta-percha tissue for protection of surface, after removal of Thiersch grafts for burns and denuded surfaces.

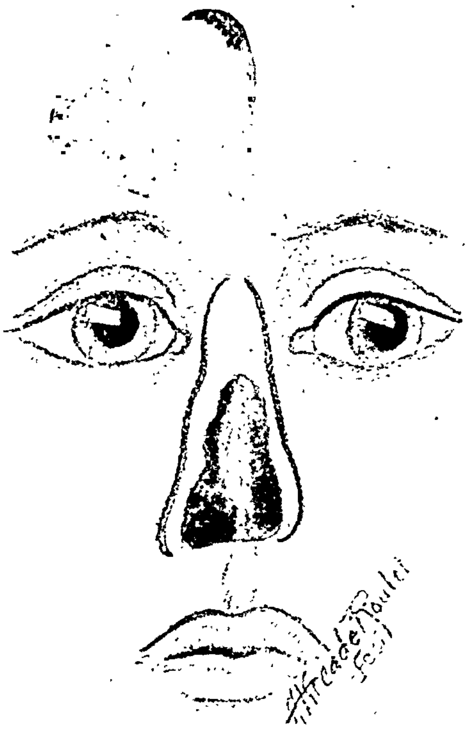

Fig. 10.—Gutta-percha tissue used for pattern in plastic surgery.

cal Board of Calcutta, sending three bougies which he had made by rolling the warm gutta-percha on the table with his hands.

That Dr. Montgomery was a prudent man is evidenced by a portion of his letter to the Calcutta board, in which he says: "I have not been able to get the flowers or fruit of the tree producing this gutta; the situation from whence the specimens I have obtained were produced is about six miles from the town of Singapore, at a place much infested by tigers, and to which it is necessary to proceed on foot. So it would be a venture of some risk to proceed to the spot on foot." With seemingly no idea of being humorous, the doctor continues that he has offered a reward which he hopes will tempt some one to face the tigers. A similar report was sent to London, and Montgomery was awarded a gold medal by the Royal Society of Arts for his contribution to science.

The tree attains a height of one hundred feet, and from the point of view of the natives was of not much value until it had reached an age of thirty years. Their method of collecting the gutta-percha was an extremely extravagant one and threatened the extinction of the species. The native method was to fell the tree, quickly cut away the branches, and make a series of lateral excavations in the uppermost surface of the fallen trunk, into which seeped the milky exudate, which, when it had hardened, was scraped out and carried to the market. Both the English and Dutch governments enacted laws that aimed to stop so wasteful a method, but it was not possible to exercise much control over the native population, so that as a result of their primitive methods some of the varieties became almost extinct.

A method of incising the bark of the standing tree was finally devised, which proved successful, and did not injure the tree. Later it was found that the leaves were profitably productive when properly treated. It remained for the United States Commission, under the supervision of Dr. Pennoyer, however, to devise a method of recovering the gutta-percha by means of hot gasoline, which has proven a success.

At the time of Dr. Montgomery's introduction of gutta-percha, efforts were being made to find something that would be of sufficient protection to submarine cables to render them practicable for prolonged use. In 1847 Werner von Siemens, a German, experimented with gutta-percha and found it to be the much-sought-for substance, water and the high pressure of the deep sea improving its insulating and lasting qualities.

In 1846 Alexander Cabriol took out several patents on articles made of gutta-percha for surgical uses. In 1849 a committee composed of Chevalier, Poiseuille and Robert presented a report on gutta-percha surgical instruments to the Academy of Medicine, Paris. Here we find the first mention of gutta-percha tissue, which was termed "laminated sheets," in which Cabriol had ingeniously incorporated various metallic powders. The committee called attention to the resistance offered by gutta-percha to chemical agents, and the fact of its not being affected by prolonged contact with irritant or putrescent liquids of the human body, such as urine, fecal matter, vaginal discharges, etc.

In 1856 Dr. A. Manoury,[1] surgeon to the Chartres Hospital, published an article explaining the use of plates of gutta-percha, 1 mm. thick, incorporated with iron filings, which he used for covering old ulcers, discharging wounds and sores of the sacral regions in heavy fevers.

In 1872 Dr. A. Cousin[2] reports a new method of making occlusive dressings. "A surface of the skin being required to recover, I cut a piece of gutta-percha leaf, of a size double or treble this surface; the edge of this is wetted for 1 or 2 cm. with chloroform and is applied immediately to the skin; adherence is made with great energy at all the points touched by chloroform, and with such perfection that the least irregularities on the skin are molded with remarkable fidelity in the thickness of the impermeable stuff. The gutta-percha is reduced by lamination into leaves as thin as waxed silk."

Gutta-percha was used extensively for splints, and many papers describing its uses were written by European and American surgeons. One of the most interesting papers I found was read by Carey of Dayton, Ohio, before the Montgomery County Medical Society in 1851. As a splint material it was superseded by plaster of Paris and other appliances, and with this change its mention in medical writings almost entirely disappeared.

Gutta-percha tissue possesses certain advantages over oiled silk, in that it is free from odor, is more pliable and is not disintegrated by body temperature and moisture. The point made by one surgeon, that in case of a suppurating wound it confines the purulent exudate too closely to the dressing, is untenable, as saturation of a dressing terminates its usefulness and indicates a change. This means more work for the caretaker, but likewise means better surgery. Replying to the statement that it is insanitary because it cannot be boiled, it will be shown that gutta-percha tissue can be simply and readily sterilized.

One of the most common uses to which gutta-percha tissue lends itself is in the application of both the dry and moist occlusive dressing.

When it was understood that a poultice possessed no drawing powers other than capillary attraction, there remained no excuse for its employment, if a substitute could be found that would combine its heat-and-moisture-retaining qualities. Because of its impermeability to water and its poor heat-conducting property, this tissue, placed over hot moist gauze, makes complete the clean and simple substitute for the troublesome poultice.

The dry occlusive dressing, consisting of gutta-percha tissue applied over either dry cotton or gauze, possesses to a slighter degree the same properties as the moist occlusive dressing.

In dealing with an arthritis or a cellulitis, which is free from pus, hot or cold moist gauze is applied and covered with gutta-percha tissue. Over this one or more layers of cotton, and, for keeping in place, a soft or hard roller. This constitutes a moist occlusive dressing, which also is an admirable application for a suppurating wound. The pus is confined to the gauze beneath the gutta-percha tissue; the outer dressings and bandages are kept dry and clean; infectious material is not distributed broadcast over the bedding and patient's body and gown.

With this dressing we obtain the benefit of heat and enough moisture to keep the parts pliable and encourage the blood-vessels and lymph-vessels to perform their function of carrying phagocytes to, and the dead cells and bacteria away from, the injured tissues.

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[1] Manoury, A.: Bull. Gen. de thérap., 1856, xxx, 29-32.

[2] Cousin, A.: Bull. gén de thérap., 1872, xxxii.

In dressing a digit, the dressing with its gutta-percha covering is best secured by wrapping about it either the surgeon's tape, which is not loosened by water, or adhesive plaster, which must be kept dry.

In plastic operations, when transferring large grafts, gutta-percha tissue makes an excellent pattern. It is sterile, retains its shape and is sufficiently pliable to adapt itself to the surface where the incision is to be made.

For the protection of the incision of an operation for hernia, which is liable to be soiled by urine, the line of incision is first covered by a very thin layer of cotton, the fibers of which have been teased apart to reduce its thickness. A sheet of gutta-percha is now applied, and over this is placed a strip of gauze which should extend half an inch to an inch beyond the borders of the gutta-percha covering. The dressing is then sealed with collodion. In male patients the distal end of the gauze is divided, the divided ends carried around the penis and sealed with collodion to the scrotum.

For skin grafts, the gutta-percha tissue is cut into narrow strips and applied directly to the newly grafted surface. The strips are made of sufficient length to extend a short distance over the healthy skin, which is first given a coating of sterile zinc salve. No medicament is applied to the grafts. The grafted surface is then covered with dry gauze or with gauze wrung out of a normal salt solution at a temperature of 100 degrees F. The gauze dressing is removed daily and any exudate which appears between the strips of gutta-percha is carefully wiped away with camel hair brushes dipped in sterile normal salt solution. The denuded surface on the thigh, from which the grafts were obtained, is coated with sterile zinc salve and covered with a perforated sheet of gutta-percha tissue, over which dry gauze is applied.

The perforations of the gutta-percha may be made by folding the sheet in the manner of an accordion pleat and cutting out small sections with a scissors. Or the integrity of the sheet may be better preserved by making the perforations with an ordinary harness-maker's punch.

When it is desired to isolate an infected area, it can readily and effectually be done by making a pad of alternate layers of gutta-percha tissue and gauze which is placed over the infected area and stitched to the surrounding healthy skin.

This plan is applicable in case of fecal fistula, where an anastomosis for its cure is to be performed. The line of the new incision is protected in the manner described for hernia.

Because of the trauma inflicted by rubber tubing, which of necessity remains for a protracted period in a wound, it would seem advisable to substitute gutta-percha. This substitute is made by folding one or more sheets of gutta-percha tissue, which is made into a spiral by twisting. This form of drain is easily made to follow even a sinuous tract, and can be removed and a fresh one inserted without distress to the patient, and without in any way injuring the budding cells.

For draining the gall-bladder, the ordinary rubber tube, without being perforated. is wrapped, by placing a single layer of gauze over a sheet of gutta-percha, and taking three or four turns about the tube. This covering should not extend quite to the end of the portion of the tube that is placed within the gall-bladder, as there might be a possibility of its slipping and thus obstructing the lumen of the tube. The Mikulicz drain may be modified and its value enhanced by introducing with the packing a number of cigarette drains. Its pressure qualities are thereby better preserved and its drainage qualities augmented.

In other cases the gutta-percha tissue spiral may with advantage be introduced into the sack of the Mikulicz drain. Where there has been a denudation requiring the use of the tampon the cigarette drain with the gauze extending beyond the gutta-percha covering may be used with advantage. These modifications of the Mikulicz drain facilitates its removal, adds to the comfort and hastens the recovery of the patient.

As a covering for burns, ulcers or granulating surfaces, perforated gutta-percha tissue protects the abraded surface and permits the escape of any exudate that may be present.

That gutta-percha tissue may with perfect safety be left permanently within the body was demonstrated by Abbe, who, in 1903, reported the successful use of gutta percha tissue in an operation for the removal of the Gasserian ganglion, which he had performed fifteen years previously. Abbe has used it on the surface of the brain, between the dura and skull and between the skull and scalp. In all of these positions he found that it retained its shape and gave rise to no untoward symptoms.

In cases in which the moist blood-clot of Schede is employed I substitute gutta-percha tissue for the oiled silk recommended by him.

The above is far from being a complete list of the uses of gutta-percha tissue. It finds a place in any surgical procedure in which drainage is required.

In 1899, after reading an article by Richardson,[3] describing the sterilization of rubber gloves with formaldehyd gas, it occurred to me that gutta-percha tissue could be sterilized in the same manner. The experiments were carried out in the laboratory of the German Hospital. Those experiments showed that gutta-percha tissue could be sterilized in two hours with the fumes of formaldehyd.

Dr. S. Strouse, assistant pathologist to the Michael Reese Hospital, under the supervision of Dr. J. W. Jobling, has kindly carried out, at that institution, the following experiments with gutta-percha tissue, which was taken from an original package bought in the open market.

Small pieces, about 1 cm., were cut under aseptic conditions from various parts of the tissue and suspended in sterile broth at 37.5 C. for twenty-four hours. Only one piece showed no growth. One gave a pure culture of *Micrococcus pyogenes aureus* and others gave a culture of a long spore-bearing bacillus.

Pieces of the same size were next suspended in antiseptic solutions as follows:

| | | |
|---|---|---|
| 1. Bichlorid of mercury | 1 to 1000 | |
| 2. Bichlorid of mercury | 1 to 2000 | |
| 3. Phenol | 1 to 20 | —(5 %) |
| 4. Phenol | 1 to 40 | —(2.5 %) |
| 5. Liquor cresolis compositus | 1 to 50 | —(2 %) |
| 6. Liquor cresolis compositus | 1 to 100 | —(1 %) |
| 7. Alcohol | 95 % | |
| 8. Alcohol | 47 % | |

They were allowed to stand in closed sterile dishes at room temperature for twenty-four hours, then removed with sterile forceps, washed thoroughly in sterile distilled water and transferred to tubes of bouillon. in which they were incubated at 37.5 C. for twenty-four hours. Tubes 3 (phenol 5 per cent.) and 7 (alcohol 95 per cent.) showed growths of an organism similar to the one found in the original gutta-percha package. The other tubes were sterile. Pieces were also taken from other parts of the gutta-percha package and suspended in a broth culture of *Micrococcus pyogenes aureus* for forty-eight hours and then allowed to remain for twenty-four hours at room temperature in the antiseptic solution as given above.

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[3] Richardson: New York Med. Jour., June 24, 1899.

After washing in sterile water the pieces were transferred to bouillon and incubated for twenty-four hours at 37.5 C. In this experiment, which was repeated with very small pieces (3 by 2 mm.), no growth resulted in any case.

The same experiments were then undertaken with an actively growing pure culture of *B. subtilis* in bouillon. The effects of the disinfectant after twenty-four hours showed striking contrasts. Both solutions of *bichlorid of mercury* effectually killed the organism; but in no other case were the other solutions efficacious.

Phenol, 2.5 per cent., allowed more growth than 5 per cent. liquor cresolis compositus, 1 per cent. allowed more growth than 2 per cent. alcohol, 95 per cent. allowed more growth than 47 per cent. The experiment was repeated, allowing the gutta-percha soaked in the bacterial growth to remain in the antiseptics forty hours, but the results were the same as for twenty-four hours.

The physical properties of gutta-percha roughly tested by inspection and behavior on manipulation seemed unchanged by any of the solutions employed.

### CONCLUSIONS

1. The sample of gutta-percha tissue tested cannot be considered sterile.

2. Immersion of gutta-percha tissue in bichlorid of mercury 1 to 1000 or 1 to 2000 for twenty-four hours effectually sterilizes it and does not seem to otherwise affect the tissue.

I wish to thank my assistant, Dr. Emmet Keating, for helping me to prepare this paper.

100 State Street.

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# VACCINATION AND ITS RELATION TO ANIMAL EXPERIMENTATION *

JAY FRANK SCHAMBERG, M.D.
PHILADELPHIA

## VACCINATION

In writing on the increase of our knowledge of vaccination and smallpox in its relation to animal experimentation and research, it will be desirable to preface the same by a discussion of the efficacy of vaccination as a prophylactic measure against smallpox.

In order to appreciate the importance of Jenner's discovery of vaccination, it is necessary to comprehend how extensive and fatal was smallpox in the prevaccination period.

It has been estimated that the population of London in 1685 was 530,000; in 1750 it was approximately 653,900; in 1801 it was determined by census to be 746,233.

The mortality from smallpox in London for an average of ten years, from 1681 to 1690, was over 3 per thousand of population (3,000 per 1,000,000); in the seventeenth and eighteenth centuries it frequently rose to 4.5 or more per thousand.

In the 54 years from 1647 to 1700, there was an average mortality from smallpox in London of 1,079 per year. The average yearly deaths by smallpox in the eighteenth century were 1,958. As it has been computed that about one in five died, it would appear that there were on an average over 5,000 cases of smallpox annually in the English capital in the seventeenth century, and almost 10,000 cases a year in the eighteenth century.

As will be readily comprehended, smallpox was a great scourge before the days of vaccination; but a small percentage of people escaped its ravages. It is asserted by contemporaneous writers that in the eighteenth century from 85 to 95 per cent. of the inhabitants of European countries suffered at one time or another from the smallpox.

Indeed, smallpox was as prevalent in the eighteenth century as measles is at the present time. Haygarth gives an account of an epidemic of smallpox in Chester, England, in 1744, at which time, out of a population of 14,713, 1,202 persons took the disease and 202 died. At the termination of the epidemic there were but 1,060 persons, or 7 per cent. of the population who had never had smallpox.

In 1722 smallpox devastated the small English town of Ware, whose population numbered 2,515 souls; of this number, there were only 914 persons susceptible to smallpox, inasmuch as 1,601 had already passed through an attack of the disease. During the epidemic referred to, 612 persons were attacked, leaving but 302 individuals in the entire town who had never had smallpox. Eighty-five per cent. of the population, therefore, were smallpox survivors.

With these official figures in mind, we may be better able to appreciate the general estimate of the extent of smallpox given by writers of the day. In 1802 Admiral Berkeley, in a speech before the House of Commons, said:

> It is proved that in this United Kingdom alone 45,000 persons die annually of the smallpox; but throughout the world what is it? Not a second is struck by the hand of Time but a victim is sacrificed upon the altar of that most horrible of all disorders, the smallpox.

King Frederick William III, of Prussia, in a dispatch, dated Oct. 31, 1803, stated that 40,000 people succumbed annually to smallpox in his kingdom.

The French physician, De la Condamine,[1] stated that "every tenth death was due to smallpox, and that one-fourth of mankind was either killed by it or crippled or disfigured for life."

Juncker, professor of medicine in Halle in 1796-98, gathered statistics[2] indicating that 65,220 persons died of smallpox in the German-speaking countries in 1796.

Sarcone[3] estimated the number of persons in Italy who suffered from smallpox as nine-tenths of the population. He states that in Rome in 1754 smallpox destroyed more than 6,000 lives.

Smallpox was introduced into the western hemisphere by the Spaniards about fifteen years after the discovery of America; in Mexico within a short period 3,500,000 persons are said to have died of the disease.[4]

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* This article is here considerably abbreviated. The complete article is one of a series of pamphlets issued by the Council on Defense of Medical Research of the American Medical Association for circulation among the public. Twelve of these pamphlets are now ready, taking up the relations to animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, rabies, surgery, internal secretions, protozoan tropical diseases, etc.

1. De la Condamine: Mémoire sur l'inoculation de la petite vérole, 1754.

2. Kübler: Geschichte der Pocken und der Impfung, 1901, p. 99.

3. Sarcone: Childpox, etc., translated from the Italian into German by Lentin, Goettingen, 1782.

4. Chapman: Eruptive Fevers, etc., 1844, quoting Robertson's History of the Discovery of America.

It is alleged that in Mexico smallpox has exterminated whole tribes of Indians, sparing no one to tell the story of the annihilation.

Robertson refers to smallpox among the South American Indians as follows:[5]

> In consequence of this [various calamities], together with the introduction of the smallpox, a malady unknown in America, and extremely fatal to the natives, the number of the people both in New Spain and Peru was so much reduced that in a few years the accounts of their ancient population appeared almost incredible.

Catlin[6] states that, of 12,000,000 American Indians, 6,000,000 fell victims to smallpox.

Washington Irving's "Astoria" makes mention of terrible epidemics of smallpox among the Indians in which "almost entire tribes were destroyed."

Lloyd, who translated Prince Maximilian's "Travels in the Interior of North America," states in the preface, in reference to a smallpox epidemic among the Indians in 1837:

> The Big-Bellied Indians and the Ricarees, lately amounting *to 4,000 souls, were reduced to less than the half.* The Assiniboins, 9,000 in number . . . are, in the literal sense of the expression, nearly exterminated.[7]

According to records published by the government of Denmark, a devastating epidemic of smallpox appeared in Iceland in 1707 which destroyed 18,000 out of the 50,000 inhabitants; 36 per cent. of the total population perished. It is stated on good authority that in the Danish colony of Greenland, in 1734, 6,000 to 7,000 persons perished from smallpox, representing nearly two-thirds of the population. The disease was introduced by a Danish ship.

The natives of New England likewise suffered great losses by smallpox. *Robertson* writes:

> At the same time, about 1631, the smallpox, a distemper fatal to the people of the New World, swept such multitudes of the natives that some whole tribes disappeared.

In 1752 Boston had a severe epidemic of this dread disease. The population of Boston at that time was 15,684; of this number, 5,998 had previously had smallpox. During the epidemic 5,545 persons contracted the disease in the usual manner, and 2,124 took it by inoculation. Eighteen hundred and forty-three people escaped from the town to avoid the danger of infection.[8] There were, therefore, left in the city but 174 people who had never had smallpox. The population at the end of the epidemic practically consisted of persons who had survived an attack of this fear-inspiring malady.

### CHANGE IN THE AGE INCIDENCE OF SMALLPOX

Smallpox was essentially a disease of children in former times; to such an extent was this true that the disease was called *Kindspocken* (childpox, or *Kindsblattern*). Owing to the pronounced contagiousness of the disease and the almost universal susceptibility to it, smallpox was largely contracted during child life, as measles is at the present time. But comparatively few adults contract measles at the present day because they are protected by a previous attack in infancy or childhood. The same conditions obtained with relation to smallpox in the days before vaccination. The adult population represented mostly the survivors from smallpox in childhood. It was estimated that only about 5 per cent. of persons were naturally insusceptible to the disease. Vaccination has totally changed the age period of smallpox. It is now excessively rare for a successfully vaccinated child under five years of age to die of the smallpox; it is even uncommon for a successfully vaccinated child under ten years of age to die of the disease, as was adequately proved in the testimony presented before the British Royal Commission on Vaccination.

### DECLINE OF SMALLPOX AFTER THE INTRODUCTION OF VACCINATION

In most of the countries of western Europe there was noted about the beginning of the nineteenth century a sudden and pronounced decrease in the morbidity and mortality of smallpox. Inasmuch as this was coincident with the diffusion of the practice of vaccination, there is strong reason to regard Jenner's epoch-making discovery as the causative influence. The careful records of smallpox mortality which were kept in various countries, particularly in Sweden and England, make it possible to prove by documentary evidence that a marvelous decrease in the deaths from smallpox occurred within a *short period after the introduction of vaccination. In* the twenty-eight years before vaccination in Sweden there died each year from smallpox out of each 1,000,000 of population 2,050 persons; during the forty years following vaccination, *out of each 1,000,000 of population* the smallpox deaths annually averaged 158.

During the seven years preceding the introduction of vaccination in Prague, smallpox caused *one-twelfth* of the total number of deaths; during the twenty years following the introduction of vaccination, smallpox caused but one four-hundred-and-fifty-seventh of the total number of deaths.

### ARGUMENT OF OPPONENTS OF VACCINATION

The opponents of vaccination—and they have been with us since the days of Jenner—admit the decline in smallpox referred to, but deny that the decrease was the result of vaccination. They declare it was due rather to the discontinuance of inoculation. This argument was carefully considered by the British Royal Commission on Vaccination.

Unfortunately for the contention of the opponents of vaccination, the increase in the prevalence of and mortality from smallpox during the eighteenth century was not coincident in point of time with the introduction and extent of employment of inoculation.

Inoculation was introduced into England in 1721, but comparatively few persons were inoculated before 1725. As is admitted by the two dissenting members of the Royal Commission on Vaccination, *inoculation had* no effect on the mortality from smallpox *in the first* quarter of the century (see page 354, Report of Dissentients, Sydenham Publication). Computation discloses the fact that from 1700 to 1725 the average yearly mortality from smallpox in London was 1,752. During the last quarter of the century, 1775 to 1800, when inoculation was much in vogue, the average yearly mortality was 1,817, an entirely insignificant increase. Indeed, relative to the population the smallpox deaths were actually less during the latter period.

It has been, furthermore, alleged by the opponents of vaccination that the decline in the prevalence of smallpox at or about the beginning of the nineteenth century was the result of improvement in sanitary conditions.

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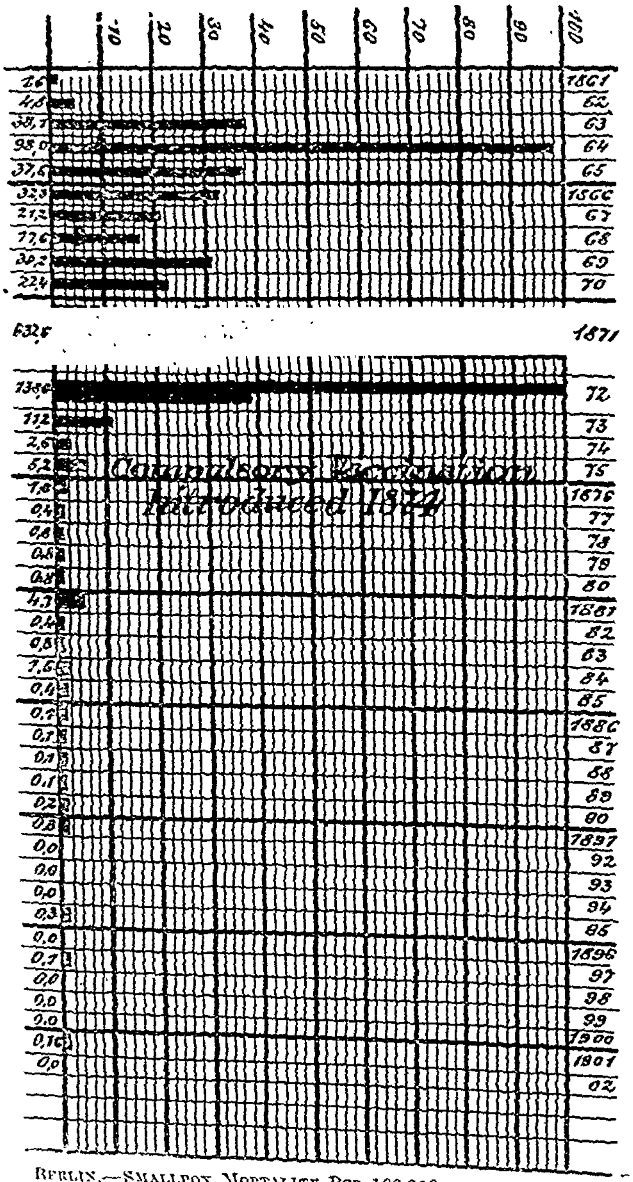
[5] Robertson, William: History of the Discovery and Settlement of America, 1829, p. 348.

[6] Catlin: Letters and Notes on the Manners, Customs and Conditions of the North American Indians. London. 1841.

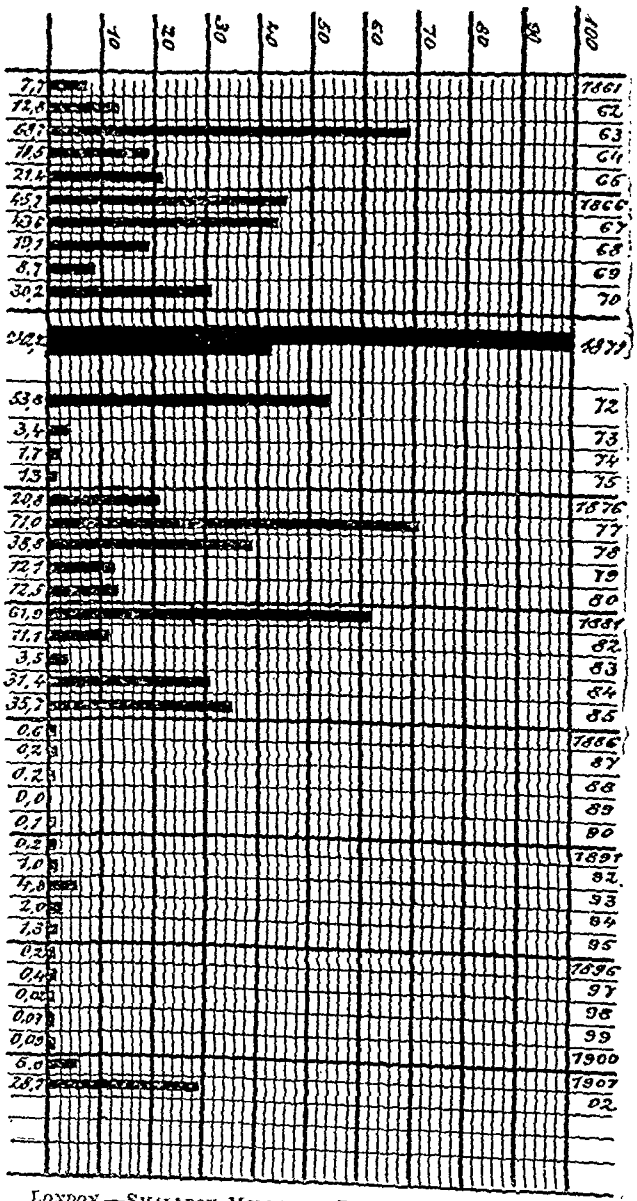
[7] Extracts from a paper prepared by Sir. John Simon in 1857, and presented by him before the Royal Commission on Vaccination in 1889, Appendix No. 1. p. 63.

[8] Gentlemen's Magazine, 1753.

It may be conceded that such improvements as better drainage and sewerage, freer ventilation, purer water-supply, lessened crowding in dwellings, and the like, would, by improving the average individual health, tend to lessen the fatality of all infectious diseases, not excluding smallpox. But such influences are totally inadequate to explain the striking and progressive decline in the prevalence of and mortality from smallpox that followed the introduction of vaccination. According to the Registrar-General's Report, during the same period in England that smallpox mortality has declined 72 per cent., the mortality from measles has fallen only 9 per cent. *Furthermore*, the death-rate from *whooping-cough* has declined but a little more than 1 per cent., and the diminution in the mortality of scarlet fever has become apparent only within comparatively recent years. Again the improvement in sanitation and mode of living has only caused a reduction of the general death-rate of the country (England) of 9 per cent.



BERLIN.—SMALLPOX MORTALITY PER 100,000 OF POPULATION.



LONDON.—SMALLPOX MORTALITY PER 100,000 OF POPULATION

CHARTS 1 AND 2 (BERLIN AND LONDON).—Comparison of *mortality* from smallpox per 100,000 of population. Since 1874, Germany has a well-enforced compulsory vaccination and revaccination law, while England has merely compulsory vaccination in infancy *not* generally enforced.
(This chart and the others in this article are part of a series published by the German Government in 1904.)

If sanitary improvements were responsible for the lessened mortality from smallpox, why did they not similarly influence the mortality from measles, scarlet fever, and whooping-cough, which are favored by the same conditions that aid the dissemination of smallpox? Smallpox and measles resemble each other in the sense that the spread of both diseases is not dependent on any special sanitary defect. Unlike typhoid fever and cholera, their occurrence is influenced by personal infection rather than by any definite vices of sanitation.

## ISOLATION PROPOSED AS A SUBSTITUTE FOR VACCINATION

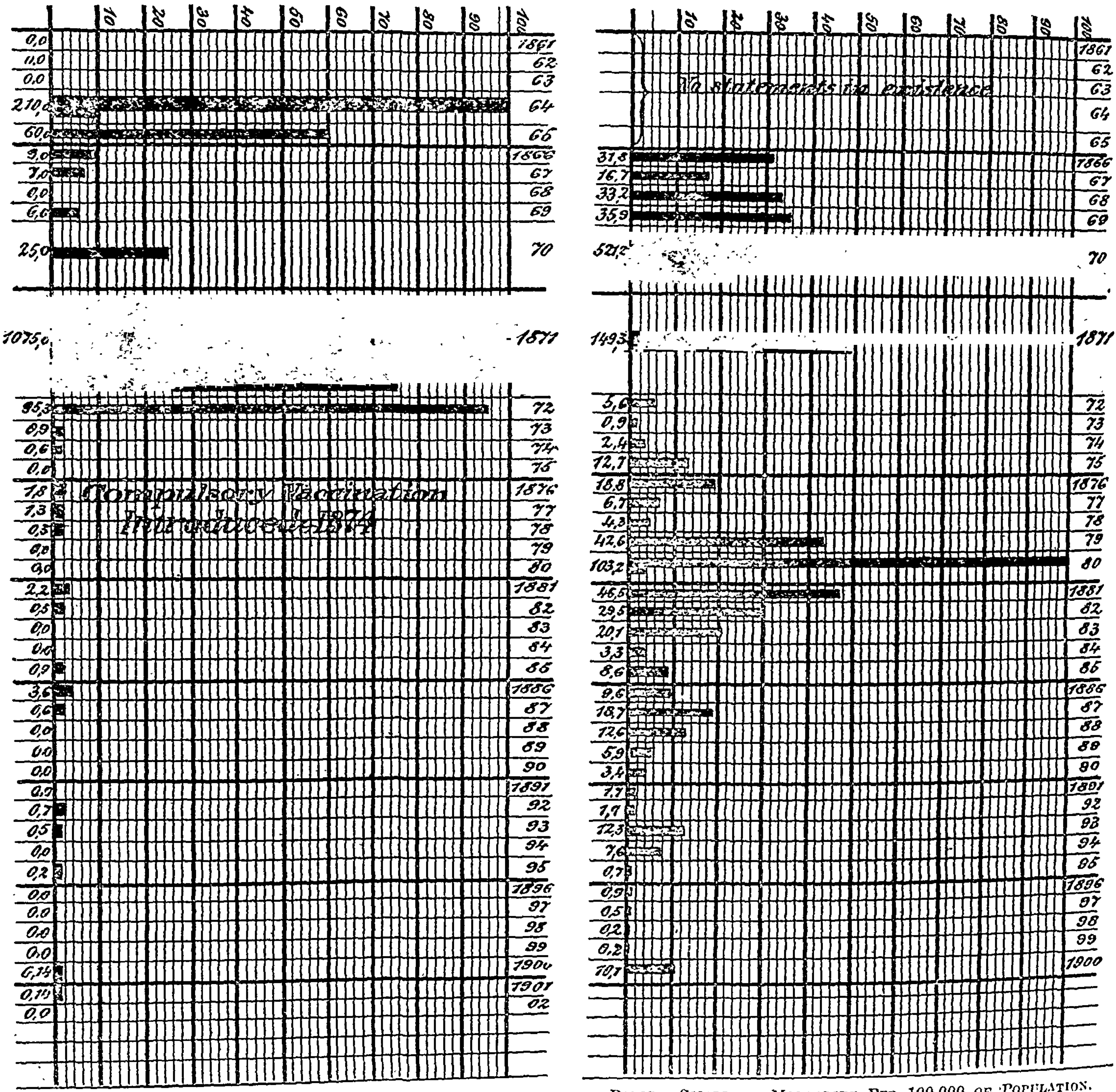
The isolation of smallpox patients and general sanitary measures are urged by the antivaccinationists as substitutes for vaccination. The isolation of patients suffering from transmissible diseases of any kind is recognized by all sanitarians as a most important procedure. But to disregard vaccination and rely on isolation to combat an extensive epidemic of smallpox would be an act of folly which would not be long tolerated by any intelligent community.

Anyone with practical knowledge of smallpox knows that smallpox is often not recognized until many persons have been exposed to infection. Mild cases of smallpox commonly escape detection while the patient is abroad in the community. Moreover, it is impossible to diagnose smallpox before the eruption appears; during the several days preceding the outbreak of the eruption those persons in contact with the patient may receive the infection of the disease.

In regard to isolation, the Royal Commission on Vaccination says: "We can see nothing to warrant the conclusion that in this country vaccination might be safely abandoned and replaced by a system of isolation." The commission, of course, favored isolation as an auxiliary to vaccination.

SMALLPOX IN THE VACCINATED AND UNVACCINATED

It is not claimed at the present day that a single vaccination will invariably protect against smallpox for life. In the endeavor of the opponents of vaccination to prove that vaccination does not protect against smallpox, statistics are frequently cited to show that a large number of vaccinated persons contract the disease. This is an argument on which the antivaccinationists are prone to lay great stress. The argument, however, is specious and merely demonstrates that a single vaccination does not, as a rule, confer life-long protection against smallpox. If provision is not made for the renewal of protection by revaccination at a later period, the subjects are only in a measure secured against smallpox. England and other countries have had for many years a compulsory vaccination law, but it has had reference only to vaccination in infancy. It has resulted in an



Hamburg.—Smallpox Mortality Per 100,000 of Population.

Paris.—Smallpox Mortality Per 100,000 of Population.

Charts 3 and 4 (Hamburg and Paris)—*Comparison of mortality from smallpox per 100,000 of population. In Hamburg no compulsory vaccination before 1874; since then compulsory vaccination and revaccination. In Paris no compulsory vaccination.*

enormous saving of child life, but it has failed to provide for the protection of adults after the vaccinal immunity has died out.

Germany is the only one of the great countries of the world that has had experience for a sufficient period of time with a compulsory vaccination and revaccination law properly enforced, and Germany has been for thirty-five years free of epidemics of smallpox, although the contiguous countries have suffered from epidemics of this disease.

### THE CLAIMS FOR VACCINATION

It is easy to comprehend why a single vaccination may not be relied on for perpetual protection against smallpox. Smallpox itself is, in rare instances, followed by another attack later in life. Now if one attack of smallpox does not invariably protect against a second, how could we expect vaccination, which in reality represents a benign, non-contagious and attenuated smallpox, to accomplish this desired end?

1. *A successful vaccination protects the subject against smallpox for a period of time not mathematically determinable for the individual, but which averages seven to ten years.*
2. *The protection may be renewed by a second vaccination when the vaccinal immunity is exhausted. The revaccination restores the protection which lapse of time has diminished or abrogated.*
3. *Persons successfully vaccinated on two occasions are usually immune against smallpox for life.* There are exceptional instances, however, of unusually susceptible individuals in whom a third or fourth vaccination is required. These exceptions are comparable with those rare cases in which a person is susceptible to a second or third attack of smallpox.
4. Persons vaccinated in infancy, who at some later period of life contract smallpox, have in the aggregate *less severe and less frequently fatal attacks than unvaccinated persons.* The degree of favorable modification of the smallpox is in inverse proportion to the period of time elapsing between vaccination and the attack of smallpox. The statistics as to the mortality of smallpox in the vaccinated and the unvaccinated are later set forth.
5. *The beneficent effects of vaccination are most pronounced* in those in whom the vaccine affection has run its *most typical and perfect course,* and who bear the best quality of vaccinal scars as attestation of the same. The mere production of a "sore arm" does not necessarily imply that the individual has been successfully vaccinated.

### THE RESULTS OF VACCINATION IN GERMANY

Since the law of 1874 went into effect in Germany there have been no epidemics of smallpox in that country. The smallpox is frequently introduced by foreigners, particularly on the frontier, but the disease can find no foothold. In 1899 there occurred in the German empire, among 54,000,000 people, only 28 deaths from smallpox; these occurred in twenty-one different districts, the largest number in any one district being three. Not a death from smallpox occurred in a large town.

In 1897 there were but five deaths from smallpox in the entire German empire (54,000,000 population).

Furthermore, for a period of thirteen years, in a population comprising two-fifths of the total inhabitants of Germany, there were only five instances of death from smallpox in successfully revaccinated persons.

Germany has taught the world how to utilize Jenner's great discovery so as to exterminate epidemics of smallpox.

The German Vaccination Committee of 1884, referring to the influence of the compulsory vaccination law, said:

> The remarkable and persistent decline in Prussia since 1875 can be due only to the vaccination law of 1874, because all other conditions remain the same in the two other countries (i. e., Austria and Germany). The only difference is that in Prussia the revaccination of all school-children at the age of 12 years was made compulsory in 1874.

*(To be continued)*

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# DIPHTHERIA BACILLUS-CARRIERS IN THE PUBLIC SCHOOLS

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BOSTON

With the discovery of the bacillus of diphtheria by Klebs and Loeffler in 1883-4 came the hope that by the means of careful laboratory tests and strict quarantine regulations this disease might soon be banished from the civilized world. This hope has, as yet, however, to no great extent been realized. True, the disease has to a marked degree been freed from its terrors through the use of antitoxin, the discovery of which was first announced by Behring and Kitasato in 1890, but its incidence as a whole has not decreased; it still waxes and wanes outside of our control, still fills our hospital wards with little sufferers, and still presents one of the most serious of public health problems.

The reason for this condition of affairs is found in the study of two conditions; the first of which deals with the patient as to his relative immunity to the disease, and the second with the organism itself as to its degree of virulence.

A virulent organism plus a susceptible individual gives a type of disease readily recognizable. These are the cases to which the physicians are called and which very properly are surrounded with every safeguard to prevent infection of others.

We may also have a virulent organism plus an immune person; this combination, producing little or no distress in the person so infected, seems for that very reason of more danger to those with whom he comes in contact.

It is fair to suppose such a person might readily be the means of causing cases in widely separated parts of a city, considering the chances of infection in places of public congregation, street-car travel, etc.

The presence of virulent diphtheria bacilli in the throats and noses of such persons is one of the most probable reasons of our inability to stamp out the disease.

A non-virulent organism, whether carried by an immune or non-immune person, cannot be conceived to be the immediate cause of the disease diphtheria, although perhaps by long infection or through transmission from one person to another such an organism might acquire virulence and become a source of danger.

To conquer diphtheria, then, we must not only isolate those who have the disease, but—a much harder problem—those immune persons who are disseminating virulent organisms, and perhaps even those with non-virulent organisms the virulence of which may become enhanced.

It has been proved[1] that about 1 per cent. of all well persons are carriers of typical diphtheria bacilli of the morphologic types ordinarily considered positive for diagnosis (i. e., Wesbrook's A, C and D).

It is, of course, impossible for us to consider isolating so large a number of people, even if our bacteriologic methods admitted the possibility of detecting them. It is probable that a large percentage of such carriers have non-virulent organisms, and our efforts should, if possible, be directed toward discovering carriers of virulent bacilli as more apt to be spreaders of the disease.

The persons most probable to be such carriers are such as have recently been in contact with those suffering from the disease, and it is a wise precaution to take cultures from such contacts as a safeguard to the public.

It has for many years been the policy of the Boston Board of Health, whenever there was an outbreak of diphtheria in a school or institution, to advise the taking of cultures from the noses and throats of all exposed persons, in order that not only those showing symptoms, but also those well persons (insusceptible or but slightly susceptible to the disease) who were bacillus-carriers might be removed from school, or in an institution isolated, if possible, from others.

This procedure has invariably been attended with marked success in clearing up such outbreaks. It has also been noticeable in several instances in institutions when the persons in charge have not taken such precautions, although urged to do so, that the eradication of diphtheria by the isolation of clinical cases only has been a well-nigh impossible task.

This experience is not confined to Boston alone; the value of such examinations is well known in public health circles, and Boston is but one among many places where they have been successfully applied. An entirely new procedure, however, was brought to the attention of the Boston Health Department when, acting on the suggestion of Dr. Richard C. Cabot, the school board suggested, under the advice of its committee of physicians, the taking of cultures at the beginning of the school year from all the pupils in the Brighton District, and the keeping from school of those found to be bacillus-carriers, as a possible means of eradicating the disease from the schools of the district.

Here it was suggested to take cultures not from persons exposed to the disease diphtheria, but from a large aggregation of supposedly normal individuals.

The estimated number of pupils in the Brighton District was about 4,500, and the laboratory promised to do the work in four days, together with the regular laboratory routine of about 100 daily examinations for diphtheria, tuberculosis, typhoid, and various miscellaneous tests. This, of course, meant long hours and close application, but for many reasons it seemed best to make these special examinations as quickly as possible. Since it had been well proved that not all carriers are obtained by a single round of cultures, it was also arranged to repeat the tests the following week.

The work had to be planned to the most minute details in order that it might be handled by the regular laboratory force. The Brighton District was divided into four sections, according to the location of the schools, and cultures were taken from the pupils in one section each day, the work being done by the regular school physicians of the district: Drs. Marion, Rowen, Rice, McKeen and McCauley, assisted by the following volunteers: Drs. Downing, Good, Kelly, Reed, Wood, Fitzgerald, Buckley, Dow, Myers, Riley, Lord and Connor.

The school board furnished, from the school nurses, assistants to do the necessary clerical work. Their work consisted of writing on a card for each culture the name and address of the pupil, the name of the school, doctor and teacher; also a number, the same number and name being written on a label on the culture tube itself.

At the laboratory, about half the necessary amount of media and swab sticks for the whole work were prepared in advance, and the day before cultures were to be taken in any section the proper number of swabs, serum tubes, throat sticks and cards were sent to the various schools.

The work in the laboratory was so arranged that, of the four doing diagnostic work, two worked continually at the preparation of smears and the other two at the microscopic examinations. The day's work started at 8 a. m. with the routine work of the laboratory, which merged as quickly as possible on to the special examinations.

It was understood that the cultures for the next day's work would reach us by 3 p. m. in order that they might be properly arranged and numbered before incubation. It was found necessary, however, for the first day or two to work evenings at this. Later, when we were more used to the details of this extra work, we were able to finish each day by 6 p. m. The smears were made up on long glass slides 9 by 2 inches, 25 smears to a slide, and all positive or suspicious smears as well as those containing $D_2$ forms were passed on by both of those making the microscopic examinations. Positive results were reported only on those cultures showing the A, C or D types of organisms (Wesbrook). These slides have been saved as of possible interest in research investigation.

Table 1.—Daily Results of Examinations

| Date. | Positive. | Doubtful, in which reinoculation or reincubation showed positive or negative. | | No culture or no growth. | Contaminated or broken tubes. | Absent. | Refused. | Negative. |
|---|---|---|---|---|---|---|---|---|
| | | + | — | | | | | |
| 9/13 | 15 | 2 | 8 | 4 | 4 | 0 | 1 | 1,262 |
| 9/14 | 12 | 3 | 2 | 5 | 2 | 0 | 1 | 1,114 |
| 9/15 | 13 | 2 | 2 | 4 | 0 | 0 | 2 | 1,012 |
| 9/16 | 8 | 0 | 2 | 1 | 0 | 0 | 0 | 689 |
| 9/20 | 12 | 3 | 3 | 3 | 0 | 5 | 1 | 1,257 |
| 9/21 | 5 | 4 | 4 | 3 | 0 | 0 | 6 | 1,100 |
| 9/22 | 8 | 0 | 1 | 3 | 0 | 0 | 4 | 1,020 |
| 9/23 | 6 | 0 | 0 | 1 | 0 | 5 | 1 | 664 |
| | 79 | 14 | 22 | 24 | 6 | 10 | 16 | 8,118 |

The cards were then marked and the reports made out. Cultures were examined by number only, being numbered consecutively from 1 to 600, 1,000, 1,200, or whatever the day's work might be, a duplicate number being on the serum tube and card. Without some such system it would have been impossible to handle the work. After the microscopic work was finished came the task of arranging the cultures for the next day by these consecutive numbers. The serum tubes were arranged in racks of 50 each, and for the most part this was readily done, taking two persons about three hours, because, as requested, the tubes and cards from any one room already had corresponding numbers; where, however, our request that this be done was disregarded we had the added labor of arranging all the tubes and cards alphabetically before we could number them.

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[1] 1. Committee of the Mass. Assn. of Boards of Health: Report on Diphtheria Bacilli in Well Persons, Jour. Mass. Assn. Boards of Health, July, 1902, p. 74.

Sixteen refused to allow cultures to be taken, and there were without question many more absentees than shown by the table.

On the first day we examined 1,287 cultures: the second, 1,131; the third, 1,029; the fourth, 699—a total for the first round of 4,146; and of these, 55, or 1.33 per cent., were positive.

The children who gave positive cultures for the most part were removed from school.

Our second round the following week gave us 1,275 cultures the first day, 1,113 the second, 1,029 the third, and 670 the fourth—a total of 4,087, of which 38, or 0.93 per cent., were positive.

Since these two rounds, cultures taken from 298 pupils, absentees, new pupils, etc., have given us 9 positives, making a total out of 8,531 of 102, or 1.19 per cent. Three of these cases, positive on the second round, were duplicates of those on the first, leaving us just 99 cases, or 1.16 per cent.

The microscopic examination of so many smears in so short a time is very trying work, and the amount done in two weeks is no criterion by which to judge as to what could be regularly accomplished in routine procedure. It would be physically impossible to carry on so large a number of such exacting examinations for a long period, and it was accomplished this time only by long hours and intense application.

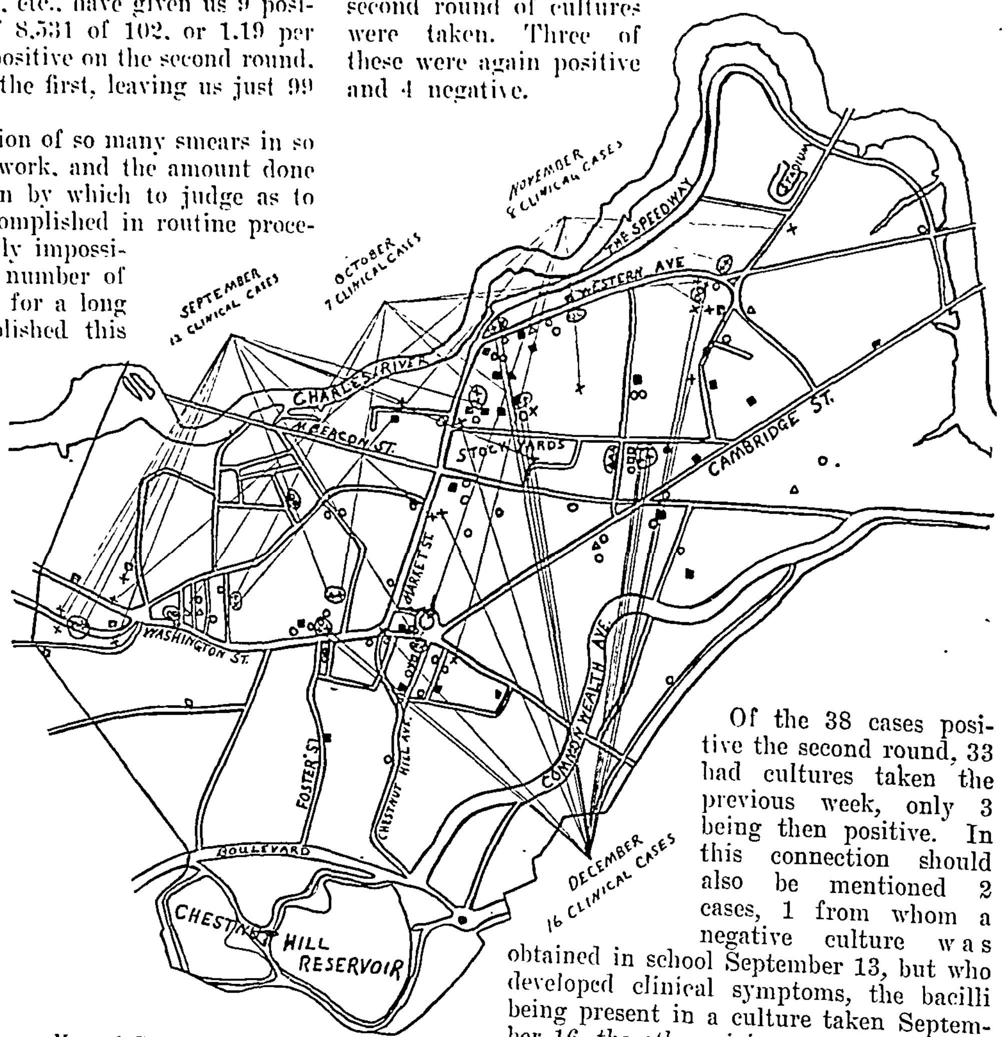
Three hundred and seventy-two secondary cultures have been received on the positive cases, of which 147 were positive.

The work began Monday, Sept. 13, 1909, and by the close of the second week we had already released on two negative cultures 29 of the children who had previously given positive cultures. The third week 32 more were freed, the fourth week 6, the fifth 5, the sixth 2, the seventh 3, the eighth 1, the ninth 5, the tenth 3, the eleventh 3. Of the remaining ten, 5 have had a single negative, two with persistently positive cultures have been allowed to re-enter school on negative virulent tests. One has left school. One was allowed to re-enter school in September through an error, after having received but a single negative. A culture taken two months later was positive, but, as the child had already been in school two months with no untoward results, she was allowed to continue. In one case the parents refused to allow the cultures to be taken and the child was admitted to school under threat of legal process.

It is probable that in many of these cases the children might have been released sooner if cultures had been taken more frequently. Fifty had but a single positive, 20 had but two, 8 had but three, 10 had four, 5 had five, 1 had seven, 1 eight, 1 ten, 1 eleven, 1 thirteen and 1 with twenty-six never had a negative. This last case is reported by the school physicians as a case of chronic ozena.

It was our intention to isolate the organisms from many of the cultures and test their virulence, but this was, of course, impossible during the progress of the examinations. Streak-outs were made, however, from all positives and the tubes saved, but the organisms were found most difficult to isolate. We succeeded in obtaining but eight pure cultures, and virulence tests on all these were almost or entirely negative.

Of the 55 children giving positive cultures during the first week's work, 7 were present in school when the second round of cultures were taken. Three of these were again positive and 4 negative.



Map of Brighton district, showing location of diphtheria bacillus-carriers and clinical cases; each small circle indicates a carrier, first week, September 13-17; each solid black square, a carrier, second week, September 20-23; each triangle, a carrier, later among absentees, etc.; each cross, a clinical case; each large circle indicates cases in same house.

Of the 38 cases positive the second round, 33 had cultures taken the previous week, only 3 being then positive. In this connection should also be mentioned 2 cases, 1 from whom a negative culture was obtained in school September 13, but who developed clinical symptoms, the bacilli being present in a culture taken September 16, the other giving a negative school culture September 16 and having symptoms and a positive culture the 20th.

It seems proper to infer from these findings that as a rule these carrier cases are but transient in character. The results seem too consistent to be accounted for by possible errors in culture taking or from overgrowth by other organisms.

We face, then, not a problem of detecting and isolating certain definite bacillus-carriers and making an end of the matter; we have rather to consider a constantly changing condition with but few fairly permanent carriers and a larger number of transients constantly shifting from one group of persons to another. Nor is there reason to believe otherwise concerning the adult population who, while not so susceptible to the disease, are just as liable to be carriers of the organisms. Even were it possible to control diphtheria by constant cultures from a whole population with isolation of carriers, how useless to attempt such control by taking cultures from school children only and allowing the other five-sixths of the population to go free!

The conditions are far different from those obtaining in an institution where all are under strict surveillance and where some such scheme might logically and properly be carried out.

These carrier cases in Brighton, as shown by the map, are widely scattered throughout the district, with but occasional grouping in neighborhoods, and sometimes two cases in one family or house.

In our examination of cultures from day to day, the percentage of positives in any given number remained about the same, indicating that the carriers were evenly distributed, and that in any given section of the district they approximated 1 per cent.

The Board of Health has no legal authority to keep these well children from school, and the procedure adopted in this case was to send a letter to the parents or guardians, as follows:

> Boston, Sept. 17, 1909.
>
> *To the Parent or Guardian of* ....................:
>
> The Board of Health hereby notifies you that the child above named has been found to be a carrier of diphtheria bacilli, and is on this account a source of danger to others. This child should not return to school or mingle with others until two negative cultures have been obtained by the school physician, who will call on you.
>
> Medical advice for the removal of these bacilli from the child's nose and throat and the early return of the child to school should be secured at once.
>
> By direction of the Board of Health. SECRETARY.

While the children were for the most part kept from school in accordance with this request, it was impossible to prevent their association with the school children outside of school hours, the Board of Health having no authority to quarantine these carriers. It is unfortunate in this connection that among the results of the work we must include the loss sustained by these children in being deprived of so much of the school year and the abandonment of school by one.

These carrier cases have been closely watched, and not one had been ill, nor has any case of diphtheria been traced to them.

The clinical cases of diphtheria still persist in about the usual number and without any apparent connection with the carriers found, as shown in the following table:

TABLE 2.—CASES OF DIPHTHERIA IN WARD 25 BY MONTHS, 1904-1909

| | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 |
|---|---|---|---|---|---|---|
| January | 19 | 3 | 6 | 11 | 18 | 7 |
| February | 4 | 3 | 8 | 6 | 20 | 3 |
| March | 1 | 1 | 7 | 2 | 6 | 4 |
| April | 13 | 8 | 6 | 15 | 5 | 5 |
| May | 1 | 4 | 9 | 3 | 29 | 2 |
| June | 2 | 1 | 5 | 2 | 16 | 7 |
| July | 4 | 0 | 14 | 6 | 6 | 4 |
| August | 8 | 9 | 15 | 0 | 5 | 6 |
| September | 2 | 2 | 6 | 0 | 16 | 12 |
| October | 4 | 7 | 23 | 10 | 14 | 7 |
| November | 2 | 9 | 28 | 2 | 25 | 8 |
| December | 6 | 5 | 18 | 11 | 10 | 16 |
| Totals | 66 | 52 | 145 | 65 | 170 | 81 |

It should, of course, be taken into account that there have been but few clinical cases of diphtheria in Brighton during the entire year.

We draw the following conclusions:

1. At least 1 per cent. of all healthy school children are carriers of morphologically typical diphtheria bacilli (Wesbrook's A, C and D types).

2. Such bacilli are communicable from one person to another and the condition is usually a transient one.

3. The organisms are ordinarily of little or no virulence.

4. While it is possible that by passing through a susceptible individual their virulence might be raised to cause the disease, this is not a frequent occurrence.

5. The disease diphtheria is kept alive in a community rather by virulent organisms in immune persons than by these non-virulent bacilli.

6. Where virulent diphtheria bacilli are present, as shown by outbreaks of the disease, cultural tests of all contacts and isolation of those showing positive cultures is a duty owed to the community.

7. Where the disease does not exist, isolation of carriers of probable non-virulent bacilli is of no proved benefit, and is a costly and laborious procedure entailing much unnecessary hardship on innocent and probably harmless parties.

8. The attempt to control diphtheria in a city by a round of cultures from all school children at the beginning of the school year does not seem encouraging from this series of tests.

9. The proposition to stamp diphtheria out of a city by cultural tests of all the inhabitants and isolation of all carriers is impossible from any practical standpoint.

30 Huntington Avenue.

# SPECIFIC TREATMENT IN PULMONARY TUBERCULOSIS *

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ASHEVILLE, N. C.

Keeping in mind the fact that most of you are engaged in the active practice of our profession and that you, therefore, come in constant contact with tuberculous patients, who do not so much care how and why they acquired their disease or fail to improve and recover, as they want to be treated and cured of it, we have believed it proper to select for our subject a practical and important side of the therapeutics of tuberculosis, a part of phthisiotherapy which has been for almost twenty years the subject of much controversy and research, and which forms the most recent and by no means the least important one of our resources in treating tuberculosis. We refer to specific medication, and understand by that term the treatment of tuberculosis by means derived from the specific virus responsible for the disease or from its products.

Most of you will remember the excitement which was caused in November, 1890, through the announcement by Koch[1] of his tuberculin which he had cause to believe a truly etiologic remedy for tuberculosis, and you will no less recall the acute disappointment which followed promptly on the short period of what a French author has called the tuberculin delirium, when failures and ill effects under the methods of application then prevailing, at first isolated, soon became frequent enough. By these the remedy was discredited and the hopes from it were doomed to disappointment.

However great the failure, however keen the disappointment at the non-success of tuberculin was at that time, we now know that the remedy itself was not responsible as much as was the method of its application and the practically indiscriminate selection of cases; and neither tuberculin nor its originator, Koch, deserved the virulent attacks which were hurled against them from many quarters. It would be a tempting task to trace the history of the discovery and development of specific means for the treatment of tuberculosis, but lack of time forces us to proceed with our subject.

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* Read by invitation before the Chicago Medical Society, Nov. 3, 1909.

[1] Koch, Robert: Deutsch. med Wchnschr., 1890, xvi, 1029.

We believed from the beginning that the failures of tuberculin and their causes could be overcome in time, and we recall with satisfaction, in the light of recent successes, that we never lost faith in the possibilities opened up by Koch's discovery, and our conviction never was shaken that the good effects which were observed would eventually be proved to be due to immunization rather than to a necrosing action of the remedy.

Tuberculin and later other products of the tubercle bacillus have been employed in the treatment of our patients in the Winyah Sanitarium ever since December, 1890, and the good results therefrom, as compared with previous ones, have improved as better preparations became available in the course of time.

It was not easy to proceed along this path and to persist in the clinical application of a discredited method, in the face of the almost universal condemnation to which it had been subjected to such a degree that but few that continued to use it dared to say a word in its favor, and we stood practically alone in this country for a number of years in open advocacy and support of the treatment.

Fortunately our persistent efforts met such emphatic clinical success that we were stimulated to renew and continue them, and we have never wavered in our firm belief that in this, as in other questions, truth must eventually prevail. In the course of the last ten and still more of the last five years the prejudice against specific remedies in the treatment of tuberculosis has gradually become less intense, and all opposition from experimental clinicians has now not only ceased, but has even been transformed into their active support.

Prior to 1901 when Koch[2] showed an increase in the agglutinating power of the serum of patients treated with emulsion of tubercle bacilli, the proof of the value of specific treatment was entirely clinical. At this time Koch reported on 74 patients who had been treated with his emulsion and whose serum prior to treatment had shown an agglutinating power in degrees which never exceeded a ratio of 1 to 10. After treatment an increase was observed, so that in 42 of the cases the agglutinating power was from 1:25 to 1:50; in 19 cases from 1:75 to 1:100, and in 9 cases it exceeded this amount. Koch inferred that the formation and increase of specific agglutinins was combined with that of other protective substances from the fact that the patients were correspondingly improved. We confirmed the findings of Koch the following year and obtained even much higher degrees by treatment with the watery extract of tubercle bacilli which had been used in our institution since 1897.

The further development of studies of immunity in tuberculosis has led to the demonstration of other specific immune bodies; that of specific amboceptor has become possible by the adaptation of Wassermann's method by Bordet and Gengou,[3] that of the opsonic index by the method of Sir Almroth E. Wright,[4] and their methods have afforded us valuable means of further confirming the results of our clinical observations.

As is well known, all immune substances are formed to a greater or less degree in infectious diseases. In a favorable course of the acute forms they appear more promptly and abundantly, which explains the equally prompt recovery. In chronic infections like tuberculosis the spontaneous formation of antibodies is far less intense in degree, which may be explained by the biologic and morphologic differences of the tubercle bacillus and by its pathogenic action, on the one hand, and, on the other, by the fact that the pathologic process induced is at first local in character, the foci being then small, becoming caseous and more or less encapsulated; further, by the non-vascularity of the tubercle and by the early obstruction of vascular channels in its periphery, all of which factors prevent in part the passing of toxins into the circulation.

Thus specific agglutinins are absent, or present in only small amounts in the beginning of the disease; they are always present and usually in greater amounts when the disease has become more evident, but still not far enough advanced to have seriously impaired the general nutrition. Such a relation has been shown by various observers and became quite apparent in our own studies. That the unaided development of such antibodies rarely reaches a degree sufficient for an actual and lasting recovery is attested by the more or less rapid progress of the disease and by the frequency of relapses after improvement or apparent cure.

In 567 cases of pulmonary tuberculosis treated in the Winyah Sanitarium we have records, on admission and discharge, of the agglutinating power of the patients' serum. The agglutinating power on admission is shown in Table 1.

The agglutinating power of these on discharge is shown in Table 2.

We have not found any considerable number of cases reported in literature which were treated without specific remedies and in which the demonstration of antibodies in the serum has been recorded on admission, during or on the completion of the treatment. In our report[5] from the Winyah Sanitarium for 1907 we cited the results obtained by Ravenel and Landis[6] in the prognostically favorable material of the White Haven Sanatorium in 18 early-stage cases in which specific methods had not been employed; after treatment for from four months to one year they obtained no other values than we do on the admission of our cases, i. e., agglutination in dilutions not exceeding 1:30. They nevertheless incline to consider a low power of agglutination as of unfavorable prognostic significance.[7]

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[2] Koch, Robert: Deutsch. med. Wchnschr., 1901, xxvii, 829.

[3] Bordet and Gengou: Ann. de l'Inst. Pasteur, 1901, No. 5; Cf. Gengou: Berl. klin. Wchnschr., 1908, xliii, 1531, and elsewhere.

[4] Wright, Sir A. E.: Lancet, London, 1901, i, 609, and elsewhere. See Note 9 for full literature.

[5] Von Ruck, Karl, and von Ruck, Silvio: A Clinical Study of Two Hundred and Ninety-three Cases of Pulmonary Tuberculosis. Asheville, N. C., 1907.

[6] Ravenel and Landis: Med. News, 1905, lxxxvii, 1070; Tr. Nat. Assn. for the Study of Tuberc., 1905, p. 140.

[7] The general conclusion of these and other authors that a low agglutination was unfavorable prognostically was insofar modified last year by Landis (Jour. Med. Research, New Series, 1908, xiii, 19) that in some cases, in spite of a persistently low rate of agglutination, good clinical results have been obtained. He assumes that in such patients with a low degree of immunity their particular tubercle bacilli are of low virulence. Aside from our reference to Ravenel and Landis we have, in the same place, referred to evidence to be found in literature in support of our position that an increase in agglutinating power of the serum proceeds *pari passu* with the improvement of the patient's condition and is therefore prognostically favorable. We wish, however, to state that the adverse conclusions recently expressed by Kinghorn and Twichell (Am. Jour. Med. Sc., 1909, cxxxvii, 404) do not appear to us to be well founded in the light of the immense amount of evidence in agreement with our point of view. As an apparently paradoxical result of successful treatment it may occur that the power of agglutination is slight or absent on discharge. Rumpf (Schroeder and Blumenfeld: Handbuch der Therapie der chronischen Lungenschwindsucht, Leipsic, 1904, p. 504) takes this to mean that in such cases the formation of antibodies is no longer needed, since none or but few toxins are absorbed, the disease being either arrested or cured.

TABLE 1.—AGGLUTINATION ON ADMISSION IN 567 CASES

| | Cases. |
|---|---|
| Negative in | 30 |
| Positive in dilutions of 1:5 in | 89 |
| 1:10 | 144 |
| 1:15 | 49 |
| 1:20 | 105 |
| 1:25 | 115 |
| 1:30 | 18 |
| 1:40 | 5 |
| 1:50 | 12 |

Concerning the nature of the agglutinins we can so far only say that they are albuminous substances, and we must refer to R. Paltauf in Kolle and Wassermann's "Handbuch"[8] for a review of the opinions expressed by different authors. The antagonistic action of agglutinins on bacteria is called "bacteriotropic" by Wright,[9] meaning that the agglutinins tend to enter into a chemical relation with the specific bacteria, whereby their viability is impaired.

Some years ago we attempted to demonstrate practically the action of agglutinating substances on living virulent tubercle bacilli by using serum from patients with varying agglutinating power for culturing tubercle bacilli. One cubic centimeter of human serum was used for each test, the blood being obtained from the fingertips and received in small sterilized test-tubes. After the serum had separated and had remained sterile in the incubator for twenty-four hours, a small flake of a serum culture of virulent human tubercle bacilli was floated on the surface and the tube replaced in the incubator.

TABLE 2.—AGGLUTINATION ON DISCHARGE IN 567 CASES *

| | Grown Worse. | | —Stationary— | | —Improved— | | Much Improved. | | Apparently Cured. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Agglutination. | No. | % | No. | % | No. | % | No. | % | No. | % | Total. |
| Lost or diminished | 23 | 100 | .. | ..... | .. | ..... | .. | ..... | .. | ..... | 23 |
| Oved 1:50; not exceeding 1:100 | 13 | 9.77 | 15 | 11.27 | 50 | 37.59 | 40 | 30.07 | 15 | 11.27 | 133 |
| Over 1:100; not exceeding 1:200 | .. | ..... | 9 | 4.66 | 25 | 12.95 | 79 | 40.93 | 80 | 41.45 | 193 |
| Over 1:200; not exceding 1:300 | .. | .... | 1 | 0.57 | 2 | 1.15 | 23 | 13.30 | 147 | 84.90 | 173 |
| Over 1:300 | .. | .... | .. | ..... | .. | ..... | 3 | 6.66 | 42 | 93.33 | 45 |

* The agglutinating power has been diminished or lost entirely in 23 cases. All of the patients grew worse or died. In 133 cases showing agglutinations in dilutions up to 1:100, 13 patients or 9.77 per cent. had grown worse or died; the condition of 15, or 11.27 per cent. was stationary; that of 50, or 37.59 per cent. had improved; that of 40, or 30.07 per cent. had been much improved or the disease arrested, while 15, or 11.27 per cent. were apparently cured. In 193 cases showing agglutination in dilutions over 1:100 and not exceeding 1:200, not patients had grown worse; 9, or 4.66 per cent. were stationary; 25, or 12.95 per cent. were improved; 79, or 40.93 per cent. were much improved or their disease was arrested; 80, or 41.45 per cent. were discharged apparently cured. In 173 cases showing agglutination in dilutions of over 1:200 and not exceeding 1:300, none had grown worse; 1, or 0.57 per cent. was stationary; 2, or 1.15 per cent. were improved; 23, or 13.3 per cent. were much improved or their disease was arrested; 147, or 84 per cent. were discharged apparently cured. In 45 cases showing agglutination in dilutions of over 1:300, 3 patients, or 6.66 per cent. were much improved or their disease was arrested; and 42, of 93.33 per cent. were discharged apparently cured.

Of the serums employed, those from normal persons tested for comparison gave no agglutination of tubercle bacilli; those from untreated patients agglutinated in dilutions of 1:10, 1:20 and 1:25. Visible growth developed on the inoculated serums which had agglutinated not at all or in dilutions of 1:10 on the tenth day; on serum agglutinating at 1:20 on the fourteenth, and on serum agglutinating at 1:25 on the fifteenth day.

With serums of treated patients which agglutinated at 1:100, 1:200, 1:300 and 1:400, a normal serum, without agglutinating power was compared likewise. On this, growth developed on the twelfth day. On the 1:200 serum, growth occurred on the thirty-fourth day; none had as yet occurred on the others. On that day all serums were inoculated intraperitoneally into guinea-pigs. All developed tuberculosis, and the difference in the duration of life was as follows: guinea-pigs inoculated with normal serum, with growth, lived forty-eight and fifty days; guinea-pigs inoculated with serum agglutinating at 1:10, 1:20 and 1:25 lived sixty, forty-two and seventy days; guinea-pigs inoculated with serum agglutinating at 1:100, 1:200, 1:300 and 1:400 lived sixty-four, seventy-five, ninety and one hundred and eight days, respectively. All pigs showed progressive tuberculosis.

In this experiment the tubercle bacilli were evidently not destroyed, but their growth appeared to be delayed or inhibited. If this was due to the presence of agglutinins or other antibodies, the results unmistakably indicate a favorable and desirable action, *in vitro* as *in vivo*, which, in the latter case, is, of course, conditional on the persistence of the agglutinating power in the patient's serum for a long period of time.

Whether this condition is actually fulfilled or not in the living blood, we have tried to determine by examination of persons who had been discharged after specific treatment for varying periods of time. Our results in 41 cases examined within the last year, the patients having been discharged from two to ten years previously were as shown in Table 3.

TABLE 3.—AGGLUTINATION IN 41 CASES AFTER DISCHARGE

| | | —Agglutination— | | |
|---|---|---|---|---|
| Time Since Discharge. | No. Cases. | Less Than 1:100 | Over 1:100 Below 1:200 | Over 1:200 |
| Two to three years | 15 | 1 | 10 | 4 |
| Three to five years | 15 | 4 | 11 | . |
| Five to ten years | 11 | 7 | 4 | . |

Specific amboceptor was also determined in 7 of these cases and was present in dilutions of 1:60 in 1 case discharged five years ago; 1:40 in 2 cases discharged three and ten years ago, respectively; 1:20 in 1 case; 1:10 in 1 case; 1:4 in 1 case, discharged three years ago. A similar result was noted in the opsonic index. The blood alkalinity was determined in 12 of the cases, being normal in 3, and above normal, i. e., from 1.1 to 1.3 in the other 9.

The active immunization by means of tubercle bacilli or their proteins is thus shown to promote the formation of agglutinins and of other immune bodies in various degrees, and in the permanency of our results shown in 602 cases tabulated in our report for 1907 we believe to be justified in assuming a relation of the immunity induced or increased by specific treatment, there being no reason to doubt that an examination of the serums of others discharged and permanently recovered would show similar results to those here reported.

Soon after the first publication of the respective methods for demonstration of specific amboceptor and the opsonic index they were applied by us for the purpose of confirming the belief that with the increase of agglutinins these would likewise show an increase. Owing to the large amount of time required, the number of cases studied was limited to individuals and small series; the result, however, left no doubt in our mind as to the correctness of our assumption. More recently, with increased facilities for this work, we have studied the subject in a larger number of cases, in many of which we made daily observations, and we are now able to report on 71 cases, in which the amboceptor and opsonic index were determined on admission, during treatment *and on discharge*. We have likewise studied the serums of 30 adults free from tuberculosis and in good health otherwise, and, for other purposes, the serums of 20 new-born children, 13 of non-tuberculous parentage and 7 in whom *one of the parents* had a history of tuberculosis. The results of these studies are given in Table 4. They show that specific immune bodies were never found in the serums of normal adults and of babies whose parents were free from tuberculous taint: *that specific amboceptor* is, as a rule, present in tuberculous subjects, and that under treatment it was increased on an average by 150 per cent., that at the same time the opsonic index increased, showing a gain of an *average of 27 per cent.*[10]

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[8] Paltauf, R.: In Kolle and Wassermann, Handbuch der pathogenischen Mikroorganismen, Jena, 1904, iv, 1, 645.

[9] Wright, Sir A. E.: Studies on Immunisation, London, 1909, p. 36. Here is full literature on opsonic studies.

TABLE 4.—COMPARATIVE STUDIES OF IMMUNE SUBSTANCES IN SERUMS

I. NORMAL SERUM IN 43 CASES

30 adults agglut. 0... amboceptor 0 opsonic index, average 0.98
13 new-born agglut. 0 amboceptor 0 opsonic index, average 0.9

II. SERUMS FROM NEW-BORN BABIES WITH HISTORY OF PARENTAL TUBERCULOSIS IN 12 CASES

A. IMMUNE SUBSTANCES IN THE SERUMS OF FIVE NEW-BORN BABIES WHOSE MOTHERS (4 CASES), OR FATHER (1 CASE) HAD BEEN TREATED WITH SPECIFIC REMEDIES

| Baby. | Mother's Serum Agglutination. | Baby's Serum. Agglutination. | Amboceptor. |
|---|---|---|---|
| 1. H. .......... | 1:250 | 1:100 | Not determined |
| 2. T. .......... | 1:200 | 1:80 | 1:50 (?) |
| 3. B. .......... | 1:250 | 1:225 | Trace |
| 4. St. .......... | 1:200 | 1:100 | 1:2 |
| 5. G. .......... | (Not tuberc.) | 1:5 | 1:10 |
| Father ...... | 1:225 | ..... | .... |

B. IMMUNE SUBSTANCES IN THE SERUMS OF SEVEN NEW-BORN BABIES WHOSE MOTHERS WERE SUSPECT OR TUBERCULOUS, BUT HAD NOT BEEN TREATED WITH SPECIFIC REMEDIES

| Baby. | Agglutination. | Amboceptor. | Opsonic Index. | Precipitins. |
|---|---|---|---|---|
| 1. B. ........ | ... | 1:20 | 1.4 | 1:500 |
| 2. M. ........ | 1:4 | .... | 0.85 | 1:400 |
| 3. P. ........ | 1:5 | 1:10 | 1.2 | 1:400 |
| 4. T. ........ | 1:2 | .... | 0.94 | 1:200 |
| 5. W. ........ | ... | .... | 0.89 | 1:400 |
| 6. Wr. ....... | 1:10 | 1:4 | 0.8 | 1:400 |
| 7. McC.* ..... | 1:2 | .... | 1.1 | 1:400 |

* Specimen did not reach us until a week after it had been taken.

III. SERUMS FROM TUBERCULOUS PATIENTS, 71 CASES

A AMBOCEPTOR

| Admission Cases. | | Discharge Cases. |
|---|---|---|
| 15 | Amboceptor absent ........................ | 5 |
| 24 | Amboceptor 1:1 to 1:5 ........................ | 15 |
| 28 | Amboceptor 1:10 to 1:20 ........................ | 29 |
| 4 | Amboceptor 1:25 and over ........................ | 22 |
| Average 1:8 | | Average 1:20 |
| | | Average increase 150 per cent. |

B. OPSONIC INDEX

| Admission Cases. | | Discharge Cases. |
|---|---|---|
| 26 | Opsonic Index 06-09 ........................ | 8 |
| 28 | Opsonic Index 1. (normal) ........................ | 3 |
| 15 | Opsonic Index 1.1 to 1.2 ........................ | 19 |
| 1 | Opsonic Index 1.3 to 1.4 ........................ | 28 |
| 1 | Opsonic Index 1.5 or over ........................ | 13 |
| Average 0.99 | | Average 1:26 |
| | | Average increase 27 per cent. |

While the methods for the estimation of agglutinins and precipitins are comparatively simple, those for amboceptor and opsonins are more complicated and require a considerable amount of preliminary study and practice as well as much time and laboratory equipment, so that they can hardly become available in general practice.

The amboceptor reading and the opsonic index vary greatly from time to time, even in favorably progressing cases, while the agglutinins show a much more uniform behavior. When the various readings are charted in such cases, the agglutinins show an almost uninterrupted upward direction, while the amboceptor and opsonic index show *rises and falls which correspond to Wright's* positive and negative phases. Wright explains the irregularities in the opsonic curves in untreated cases by the occurrence of autointoxication on exertion, excitement, and from other causes, and the explanation seems plausible. However that may be, we can confirm Wright in that the curve of the opsonic index can be depressed by the injection of bacillary products, and if the dose is too large or is given before the end of a negative phase the depression will be greater than it would be otherwise. The same is true for amboceptor, and, in fact, the two curves run practically parallel.

The curve for the specific precipitins varies likewise, but in an inverse manner to that of amboceptor and opsonic index. The precipitins increase as a whole under *immunization*, but in contrast to amboceptor and the opsonic index they rise sharply after an injection, and they also vary in untreated cases. To obtain the highest indices for amboceptor and the opsonic curves the readings *must be made when the precipitins are lowest.*

Complications and other conditions which lower the agglutinins likewise depress the amboceptor *and opsonic* curves: on their removal or disappearance the latter are found to reach their former height more rapidly than do the agglutinins.

From our observations we believe that we are *justified* in concluding that when we determine the amboceptor we likewise determine the opsonic index, and that in this sense the terms "amboceptor" and "opsonins" mean the same thing. Inasmuch as normal serum shows no specific amboceptor for tubercle bacilli, but reactivates white blood cells so that phagocytosis takes place we cannot see that the phenomenon is directly specific: but rather conclude that by the union of the specific amboceptor and complement, and their action on the specific bacilli, the latter undergo bacteriolytic changes under which phagocytosis can take place more readily. Our time is too short for us to enter into the subject more fully, and, while we are in accord with Wright that the bacilli are prepared by substances in the serum in a manner that they are more readily taken up by phagocyting cells, we prefer the theory that this "preparing" occurs in the manner stated above through the specific immune substances generated under active immunization and the normally present complement, and that the then observed increased phagocytosis is one of the results. Simultaneous observation of both the amboceptor and opsonic index are not necessary, but it is our purpose to continue them with the view of determining which of the two methods is most reliable and most practicable.

We now desire to call attention to the condition of blood alkalinity on admission and discharge in 367 cases of which we have complete records. *Comparing these,* the rate and uniformity of increase is remarkable, reaching points far exceeding the *normal*. Their relation to the results obtained is similar to that shown for agglutinins, amboceptor and opsonins, and it appears as though prognostic deductions can be made from its degree on admission. In its *determination* we have followed Dare's[11] spectroscopic method, *the normal 1.0* of which, according to him, is equal *to 266 mg. sodium* hydroxid for 100 c.c. of blood.† In our studies we have also examined the alkalinity of 30 persons in good health and free from tuberculosis, and they showed an average of 1.03 with a minimum of 0.99 and a maximum of 1.1 per cent. In our previously cited report we briefly considered this subject and reported on 100 cases. The 367 cases studied since then, in which the alkalinity was determined both on admission, during treatment, and on discharge, *give further support to our* opinion that the increase shown is important. Without referring to more of the voluminous literature, we may *recall that Roser*[12] already in 1881 called attention to the importance of the high content in sodium chlorid of the blood serum for bactericidal immunity, and that London[13] showed that a diminution in the blood alkalinity, *by the continued administration of hydrochloric* acid causes a diminution of the bactericidal action of blood serum. von Behring[14] saw the cause for the immunity of rats to anthrax in the high alkalinity of their blood serum, and found that the serum of rats *treated during life* with substances which diminish the alkalinity permits a luxuriant growth of anthrax bacilli. Pane,[15] also Zagari and Innocente,[16] confirmed the relation *of the blood alkalinity* to the natural resistance of animals. Studies concerning the relation of immunity and blood alkalinity were then made by von Fodor,[17] who found that an artificial increase of the alkalinity increased the resistance of the organism; he was supported by Calabrese,[18] Poehl[19] and Loewitt;[20] but Chor,[21] also von Behring,[22] denied the correctness of his conclusions. The latter,[23] as well as Gamaleia,[24] attributed the bactericidal power of serum to its carbon dioxid content, and they were supported by Christmas.[25] *Further experiments were published and are described by Friedberger,*[26] *who concludes that if the alkali content of the blood stands in any relation to its bactericidal power the influence of the reaction can be only secondary and can play only a subordinate rôle in artificial or acquired specific immunity against bacteria.* Friedberger adds that *the attempt to account for the destruction of germs by chemical conditions of the body fluids has long been given up.*

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[10] It should be mentioned that in a number of these cases it so happened that the blood specimens obtained on discharge showed a negative or declining phase, with a high precipitin curve, and in such instances the records for *amboceptor* and opsonic index are less than would have been found, had the blood specimens been taken at the acme of a positive phase.

[11] Dare, A.: Bull. Johns Hopkins Hosp., 1903, xiv, 175.

† Following Löwy's method of trituration, we find Dare's "normal 1.0" to correspond to 320 mg.

TABLE 5.—BLOOD ALKALINITY ON ADMISSION AND DISCHARGE, IN 367 CASES OF PULMONARY TUBERCULOSIS

| Alkalinity. | —Apparently Cured— Admission. | Discharge. | —Much Improved— Admission. | Discharge. | —Improved— Admission. | Discharge. | —Stationary— Admission. | Discharge. | —Worse— Admission. | Discharge. |
|---|---|---|---|---|---|---|---|---|---|---|
| .7 to .8 | 4 | .. | 5 | .. | 5 | 1 | 1 | 1 | 11 | 12 |
| .85 to .95 | 66 | 1 | 40 | 7 | 31 | 6 | 15 | 11 | 6 | 10 |
| 1. | 85 | 9 | 35 | 22 | 20 | 16 | 3 | 5 | 5 | .. |
| 1.05 to 1.10 | 11 | 28 | 5 | 28 | 3 | 22 | .. | 1 | .. | .. |
| 1.15 to 1.20 | 6 | 65 | 3 | 27 | 3 | 6 | .. | 1 | .. | .. |
| 1.25 to 1.30 | 2 | 62 | 2 | 5 | .. | 11 | .. | .. | .. | .. |
| 1.40 to 1.50 and over | .. | 9 | .. | 1 | .. | .. | .. | .. | .. | .. |
|  | 174 | 174 | 90 | 90 | 62 | 62 | 19 | 19 | 22 | 22 |
| Average | .97 | 1.20 | .95 | 1.10 | .94 | 1.08 | .91 | .95 | .86 | .80 |
| Gain | .. | + .23 | .. | + .15 | .. | + .14 | .. | + .04 | .. | —.06 |

TABLE 6.—BLOOD ALKALINITY IN ITS RELATION TO CLINICAL RESULTS IN 367 CASES OF PULMONARY TUBERCULOSIS

| Alkalinity. | Cases. | Apparently Cured. No. | % | Much Improved. No. | % | —Improved— No. | % | —Stationary— No. | % | —Worse— No. | % |
|---|---|---|---|---|---|---|---|---|---|---|---|
| .7 to .8 | 14 | .. | .... | .. | .... | 1 | 7.14 | 1 | 7.14 | 12 | 85.7 |
| .85 to .95 | 35 | 1 | 2.85 | 7 | 20.0 | 6 | 17.1 | 11 | 31.40 | 10 | 28.5 |
| 1. | 52 | 9 | 17.3 | 22 | 42.3 | 16 | 30.7 | 5 | 9.6 | .. | .... |
| 1.05 to 1.10 | 79 | 28 | 35.4 | 28 | 35.4 | 22 | 27.8 | 1 | 1.27 | .. | .... |
| 1.15 to 1.20 | 99 | 65 | 65.6 | 27 | 27.1 | 6 | 6.05 | 1 | 1.01 | .. | .... |
| 1.25 to 1.30 | 78 | 62 | 79.4 | 5 | 64.0 | 11 | 14.1 | .. | ..... | .. | .... |
| 1.40 and over | 10 | 9 | 90.0 | 1 | 10.0 | .. | ..... | .. | ..... | .. | .... |

However this may be, we nevertheless believe that the alkalinity of the blood *is an important factor in resistance*, it being a well-known fact that *especially in infectious diseases it increases during convalescence and diminishes when the disease takes an adverse course.* Our results in the 100 cases tabulated in 1907 and in the 367 cases *examined since then show that an increase in* the blood alkalinity occurs with successful immunization, and that, like the *increase in agglutinins, the degree of* alkalinity stands in a certain relation to favorable results obtained. The curve of alkalinity *we find to rise practically in a parallel ratio* with that of the agglutinins. We do not, *of course, claim that this is in any way specific* either in regard to resistance or to immunity; it is perhaps rather a phenomenon of general resistance, as has been pointed out by Kolle.[27]

In Tables 5 and 6 we give the alkalinity as found on admission and discharge in 367 cases, and its increase under specific treatment is shown to vary according to the results obtained.

In these 367 cases the results were obtained under the influence of watery extract of tubercle bacilli. If we compare their immunity and resistance as shown by agglutinins and by alkalinity, as we have found them in 13 cases treated elsewhere with old tuberculin, in 5 cases treated with *Bouillon filtré* (Denys), and in 2 cases treated with Koch's *Bacillen emulsion*, we find that in these twenty patients the blood alkalinity and agglutinins after discharge were much less, the highest degree being shown in the two cases treated with Koch's emulsion.

On discharge the alkalinity was below normal in 7 cases, average agglutinins 1:48.

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[12] Roser, K.: Beiträge zur Biologie niederer Organismen, Marburg, 1881; Cf. von Lingelsheim: Ztschr. f. Hyg., 1901, xxxvii, 131.

[13] London: Compt. rend. Acad. d. sc., cxxii, 1278; Cf. Hahn; in Kolle und Wassermann Handbuch der pathogenen Mikroorganismen, iv, 1, 266.

[14] Behring, E.: Centralbl. f. klin. Med., 1888, ix, 681; Ztschr. f. Hyg., etc., 1889, vi, 117.

[15] Pane: Riv. clin. e. terap., 1892, No. 12; Cf. Friedberger, note 26.

[16] Zagari and Innocente: Giorn. internaz. d. sc. med., 1[illegible]2, p. 801; Cf. Friedberger, note 26.

[17] Von Fodor: [illegible]entralbl. f. Bakteriol., 1891, vii, 7; 1894, xvi, 783; 1895, xvii, 22[illegible]

[18] Calabrese: Gio[illegible] internaz. d. sc. med., 1895, Nos. 5 and 22; Cf. Friedberger, note [illegible]6.

[19] Poehl, A.: Deuts[illegible]. med. Wchnschr., 1895, xxi, 88.

[20] Loewitt, M.: Beit[illegible]z. path. Anat. u. z. allg. Path. (Ziegler's), 1897, xxii, 172.

[21] *Chor: Ann. de l'Ins*[illegible] Pasteur, 1891, p. 337; Cf. Friedberger, note 26.

[22] Behring, E.: Ztschr. [illegible] Hyg., 1890, ix, 395.

[23] Behring, E.: Ztschr. f[illegible] Hyg., 1889, vi, 107.

[24] Gamaleia: Ann. de l'In[illegible] Pasteur, 1888, ii, 517; Cf. Friedberger, note 26.

[25] Christmas: Ann. de l'Inst. Pasteur, 1891, v, 487; Cf. Friedberger, l. c.

[26] Friedberger, E.: In Kolle and Wassermann, *Handbuch der* pathogenen Mikroorganismen, iv, 1, 491, 560.

[27] Kolle, William: In Kolle and Wassermann, *Handbuch der* pathogenen Mikroorganismen, iv, 1, 408, 411.

On discharge the alkalinity was normal in 6 cases, average agglutinins 1:56.

On discharge the alkalinity was above normal in 7 cases, being 1.07 on an average, and reaching 1.2 in only one instance, average agglutinins 1:108.

Finally we refer to our examinations of serums in 23 cases having apparently recovered without specific treatment in the sense that there were no marked symptoms, and who had either been discharged elsewhere as apparently recovered or had lost their symptoms under favorable climatic conditions without special professional care.

In these, the blood alkalinity and the agglutinins had not increased over what we have ordinarily found on admission. It was below normal in 4 cases, and the agglutinins gave an average of 1:10. The blood alkalinity was normal in 6 cases, average agglutinins 1:15.

The blood alkalinity was above normal in 13 cases, ranging from 1.05 to 1.15, with an average of 1.07, average agglutinins 1:108.

That tuberculosis actually existed in these patients was otherwise evident, and the conjunctival tuberculin test which was applied in 9 instances gave positive results in all of them.

Our studies concerning the causes underlying the striking increase in the blood alkalinity in patients treated with specific remedies and especially with remedies derived from the body substance of the bacilli have not yet given any definite results. The correspondence with the increase of agglutinins is, however, suggested. J. H. Kellog,[28] among other authors, brings it into relation to diet and uses his findings as an argument against forced feeding with an excess of proteins, claiming that the blood, overcharged with protein-waste, causes a deficient oxidation and diminishes the alkalinity and consequently the vital resistance. We do not believe that diet is a deciding factor in our cases, because it was the same in practically all of them. It was, as a rule, mixed; nearly all patients gained in weight, and we are not aware that there is anything special in our dietary to account for the increase in alkalinity. Outside patients who did not board in the institution showed the same relative increase in alkalinity under specific treatment. While in normal serums the variation of the blood alkalinity appears to stand in relation to the color index, we do not find this to be the rule in tuberculosis. It is true that in some anemic patients the alkalinity and also the blood count and the hemoglobin content are low, there are others, and they are more numerous, in whom this is not the case. For instance, we show the alkalinity normal with a low red cell count of 3,200,000, and hemoglobin 0.60 per cent., while in another case it is likewise normal, with a blood-count of 4,800,000 and hemoglobin 0.90 per cent.; or, again, we obtain an increase in alkalinity of 25 points, from 0.85 to 1.1, when the blood-count remained constant at 4,800,000 and the hemoglobin at 0.82 per cent.

The idea has suggested itself to us that the increase in blood alkalinity under specific treatment depends on the increase of alkaline albumins which would best account for the regularity and constance of the increase.† A. Loewy[29] concluded from his studies that the alkalies of the blood are only partly mineral and are in part derived from organic sources, i. e., albumins. von Fodor and Rigler[30] believe that the alkalinity is derived from organic substances and that their formation is stimulated by the injection of specific remedies through a vital reaction in the body or by the leucocytes. They, however, leave the question unanswered whether or not these alkaline substances are identical with those which protect the organism against infection. That the mechanism of immunization is chemical and not physical in nature was pointed out in 1890 by Koch[31] at the Tenth International Medical Congress in Berlin and has since been confirmed by the work of Ehrlich.[32]

Returning now to the practical side of specific treatment in tuberculosis, we believe that the evidence from literature as well as that afforded by our own investigations is sufficient to establish our position that after active immunization the protective substances as well as the blood alkalinity are increased, and that *pari passu* with this increase there occurs a corresponding improvement in the condition of the patient and in the tuberculous process, and that this evidence is sufficient to relieve our assertion from the possible reproach of a post hoc conclusion, the clinical improvement having been shown to stand in relation to the immunization.

If you admit our position as correct, you must also admit that the treatment of pulmonary tuberculosis by general hygienic-dietetic methods, however valuable it undoubtedly and admittedly is, is not capable of more than improving the general condition, thereby increasing the general resistance. It is not able to induce specific resistance, though it aids its development and maintenance in so far as it induces a better state of cell nutrition. To secure this, careful attention to hygienic-dietetic methods is thus of the greatest importance.

Concerning the choice of preparations for immunization, our aim should be to induce active bactericidal, rather than antitoxic or passive immunity, it being essential that the organism elaborate its own protective substances and maintain this function for the longest period of time possible. For this purpose the bacillus itself or its soluble products are necessary, and the preparations available may be divided into two classes:

1. The tuberculins are products derived from the liquor culture media on which tubercle bacilli have been grown, but into which the bacillary bodies do not enter. The tuberculins act chiefly as stimulants on the periphery of tubercle and often cause local inflammations which are dangerous. They may, indeed, produce a degree of immunity by the presence of specific proteins derived from the bodies of tubercle bacilli, especially if the preparation be made from very old cultures, in which more or less of the bodies of the tubercle bacilli have become disintegrated. The immunity produced by the tuberculins is, therefore, comparatively slight at best, and is often not sufficient to arrest the growth and multiplication of the tubercle bacilli.

2. Preparations derived from the tubercle bacilli bodies themselves, represented by Koch's *Bacillen emulsion* and by the watery extract of tubercle bacilli.

In our choice between the emulsions of Koch and others and the watery extract of tubercle bacilli our preference for the latter has been governed by the compared clinical results, which, to say the least, are equally favorable under the use of the watery extract. Furthermore, emulsions have the disadvantage that the immunizing substances must first be liberated and extracted by the organism after their introduction, that the effects after repeated doses are liable to become cumulative, and that an exact dosage is difficult or impossible. The tubercle bacilli contained in such emulsions, moreover, contain other substances than those supposed to be required for immunization (fats, waxes) which have been shown to be detrimental in the experimental studies of others.

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[28] Kellog, J. H.: Med. Rec., 1909, lxxv, 253.

† The alkalinity of the blood-serum shows likewise an increase. Our triturations show for a series of healthy persons an equivalent of 400 mg. sodium hydroxid; for non-treated tuberculous patients from 210 to 400 mg. and for cases treated with watery extract of tubercle bacilli from 460 to 570 mg.

[29] Loewy, A.: Centralbl f. d. med. Wissensch., 1894, xxxii, 785.

[30] Von Fodor and Rigler: Centralbl. f. Bakteriol., 1897, xxi, 186.

[31] Koch, Robert: Verhandl. d. X. Internat. Med. Cong., Berlin, August, 1890, i, 35.

[32] Ehrlich, P.: Ges. Abhandl. z. Immunitätsforsch., Berlin, 1904, pp. 515, 537.

The question of the selection of cases suitable for immunization we have considered[33] fully in the Report of the Winyah Sanitarium for 1909. Here we can only say that the state of existing nutrition is all important, and that in cases in which this is seriously impaired or *progressively declining there is little* or no response in the formation of immune substances. Thus we would have to exclude exhausted and cachectic patients and those whose general condition is on a decline on account of higher degrees of fever and of complications, and we would have to defer specific treatment until the decline in nutrition has been checked and an improvement has become manifest. In cases with advanced lesions we must further consider their prognostic import in the light that whatever the degree of immunity present or prospective may be it cannot remove caseous foci, prevent or stop softening and disintegration of necrotic tissue, or remove complications due to other causes, such as inflammation and suppuration induced by other pathogenic bacteria. What we may reasonably expect is that the new *formation of tubercle will be checked, that more* recent tubercles will undergo resolution and disappear, that older foci not yet softened will become more readily *encapsulated, and that in favorable cases the results in* these respects will become permanent.

For the results which we have obtained we must likewise refer to our clinical reports. A tabulation which appeared in the one for 1909 (p. 11) shows as follows:

Of 1,503 cases treated with the watery extract of tubercle bacilli there were on discharge

| | | | |
|---|---|---|---|
| Apparently recovered | 834 | or 55.5 | per cent. |
| Improved | 508 | or 33.8 | per cent. |
| Stationary or progressive | 161 | or 10.7 | per cent. |

In the report for 1907 we likewise reported the experiences with the watery extract of tubercle bacilli of over 100 *independent* observers, most of them in general practice, and without the advantage of climatic influences or of being specially trained in the treatment of tuberculosis, and the summary in their results in 2,183 cases gives us the following percentages:

| | | | |
|---|---|---|---|
| Apparently recovered | 1098 | or 50.3 | per cent. |
| Improved | 639 | or 29.4 | per cent. |
| Stationary or progressive | 446 | or 20.3 | per cent. |

It may be of interest to remember that most of the clinical results which we have reported since 1891, and *the cases treated by others*, have been obtained without laboratory control. The success shown was, therefore, entirely due to conservative methods in the matter of dosage and frequency of administration and in proper attention to the individual needs in each case.

While, *then, the general* practitioner can also successfully immunize his consumptive patients without determining the agglutinating power, amboceptor, or the opsonic index of his patients' blood serums, we nevertheless suggest a simple method by which he can control and regulate the doses, namely, the determination of the precipitin curve. Our charts show that the highest point of this curve corresponds to *the lowest point of the* amboceptor and opsonic index, and when the latter is reached a further dose may properly be given. The method for determining the precipitins is *not* only very simple, but it has the advantage that degrees vary in very much wider limits than do the opsonins, going up to 1:2000 or more, so that small variations can be determined which could hardly be appreciated in the opsonic index.[34]

We are at the end of this communication, and we hope *that we have proved* the advantage, nay, the necessity, of active immunization in addition to general methods in the treatment of tuberculosis, if we desire to give our patients the *fullest benefit of treatment and the best* chances for recovery. With this addition, even the general practitioner will see no longer a reason for the pessimistic opinions expressed by some tuberculosis specialists concerning the results attainable, even under what they consider *the most favorable conditions. Investigation* will probably show that they treat their patients entirely by general methods in which, as we have pointed out, relapses are almost unavoidable.

We ourselves, on the contrary, see rather cause for enthusiasm and a stimulus for renewed efforts than for lamenting the fate that made us specialists in the disease.

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# THE DYSPEPTIC TYPE OF CHRONIC APPENDICITIS

## (PYLORIC SPASM) WITH DIFFERENTIAL DIAGNOSIS

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AND

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### GENERAL CONSIDERATIONS

Cases of chronic appendicitis in which the *stomach* symptoms predominate have been a stumbling block in the past to both clinician and surgeon, and *to-day the* symptomatology of the condition is far from being definitely settled. In the early days many of these cases were operated on by surgeons in general for ulcer of the stomach, and while no lesion was found in the stomach, a needless gastroenterostomy was performed *for the* so-called medical ulcer, which operation brought the patient trouble rather than relief. In our earlier experience we frequently were at fault. These patients were made worse by the first operation, and had bile regurgitation added to their former distress *necessitating* a second operation for their relief.

It has long been noted that chronic dyspepsias have been cured in patients who for years have been treated for chronic stomach disorders, in whom an acute appendicitis necessitated operation. *This attack at the time* was thought to have been a separate trouble. Indeed the profession has been slow in grasping *the point that* the stomach *picture was due to chronic* appendicitis.

In the last few years the French have written extensively on dyspeptic appendicitis, and in this country the earlier writings gave chronic dyspepsia and intestinal intoxications as etiological factors of appendicitis. Murphy, Ochsner, Richardson, Deaver, Eggleston and many others in their later writings have recognized the part played by the appendix and gall bladder in causing chronic digestive disturbances, and have made many valuable contributions to the subject.

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[33] Von Ruck, Karl, and Von Ruck, Silvio: A Clinical Study of Three Hundred and Thirty-seven Cases of Pulmonary Tuberculosis, Asheville, N. C., 1909.

[34] To those who are not familiar with the method we give the following guide: Prepare a 1:100 per cent. solution of Koch's *tuberculin or use No. 1* solution (white label) of the watery extract of tubercle bacilli, placing 1 c.c. in *small test-tubes. Add not* exceeding an equal amount of the different dilutions *of* serum, using distilled water 1 *to* 100, 1 to 200, 1 to 400, etc., and place the tubes in the incubator for a few hours, or allow to stand in a warm room for from twelve to twenty-four hours. The readings then can be observed *by the formation of the* precipitates.

In our effort to work out a symptomatology of this condition we have reviewed carefully the histories of some two hundred patients, and compared them with the histories of ulcer of the stomach and duodenum and gall bladder disease. Of these two hundred patients one hundred and fifteen have been operated on a year or longer, and each patient has been written to and the exact condition of health ascertained.

## DIFFERENTIAL DIAGNOSIS

Chronic indigestion is most typically exemplified in chronic peptic ulcer, gall-bladder pathology, appendicitis and cancer of the stomach, but we should hold clearly in mind the indigestion of pancreatitis, tuberculosis (especially pulmonary), tuberculous lesions of the ileocecal region, Bright's disease and pernicious anemia. This latter class of sufferers often present themselves solely because of digestive disturbances, and not infrequently it calls for painstaking care to reach a correct diagnosis.

### I. ULCER

Chronic ulcer of the stomach and duodenum has a definite, clear-cut and regular symptomatology, and we shall discuss this as the purest type of "indigestion." First, let us note that the histories of those who come to operation cover years of complaint, and that for much of the time the periods of attack and periods of freedom from symptoms alternate. Early in the history of this complaint the appetite remains good, nutrition does not fail, and food brings immediate relief from all symptoms; the pain, distress, gas, sour eructations, nausea or vomiting returning one to four hours after meals. The heartier the meal the more marked and prolonged the relief. During the period of attack this precise relief of symptoms by food or drink and regular return one to four hours later is peculiarly characteristic, and this prevails until complications have arisen that seriously interfere with the gastric function. Another stage of the trouble may be considered to begin after many periods of attack. The peculiar type remains unchanged. The attacks are more severe and prolonged, appetite may fail or food is not taken because of pain, distress, gas, vomiting, sour eructations and burning stomach. Food and drink relieve, but the time of relief is shortened and the later pain increased. Vomiting may replace eructations, and gives relief, as does irrigation of the stomach. Nutrition decreases not so often because of lessened appetite or of prescribed diet as because of fear of later distressing symptoms. Relief for a time comes from food or drinks, vomiting, irrigation and alkalies, but the distress returns again when the acid, acrid condition of the stomach contents returns. It is not the chronicity or the periodicity that is peculiar, nor the degree or location of the pain, nor the vomiting, gas, sour eructations or sour burning stomach; these are common to all types of chronic dyspeptic trouble—gall-stones, appendicitis, cancer, etc.; the characteristic point is the time the pain appears, with its accompanying symptoms of vomiting, gas and sour eructations; its regularity after meals or after other means that quiet, and the equally ready control of symptoms by food, vomiting, irrigation, etc. This characteristic regularity day after day, meal after meal during the period of attack is hardly equaled in any other lesion or functional disorder. Later, when complications have appeared, the symptoms change. Food may not ease, but rather increase the distress, which is often more or less continuous. There are no periods of real relief, vomiting is perhaps less frequent, is more copious and gives only partial relief; appetite and nutrition fail.

### II. GALL-BLADDER DISEASES

Gall-bladder disease has its peculiar type of digestive disturbances. We distinguish four stages based on the degree of severity of symptoms developed in the history.

1. Those patients with mild disturbance, usually gastric, and often lightly considered by the patients and even more lightly by the physicians. These are light attacks of distress, gas, upward pressure, coming often soon after food, or at irregular times, often of sudden onset and short duration, eased by belching, slight vomiting or regurgitation, or slipping away almost unnoticed and without treatment, though various measures may get credit for their relief. These sudden, irregular, mild dyspeptic attacks are quite as typical of gall-bladder disturbance as are the severe, typical attacks which, as a rule, supplant the mild.

2. There is another class of patients with more or less prolonged, dull (mild or severe) pain in the epigastric area, right hypochondrium or whole liver area. This pain may be increased by food, exertion or motion; deep respiration gives pain, and when located posteriorly the trouble may be called pleurisy. These patients pass through prolonged, steady attacks, their distress may alternate with ease, and comparatively good or excellent health may be enjoyed for a time. During an attack dyspeptic symptoms are prone to be present, and but for the irregularity, as compared with ulcer, one might oftenest consider gastric lesions.

3. In the third class is to be found the great number in whom the correct diagnosis is made, and in this class surgery finds its greatest activity. Here we have the so-called typical gall-stone attack—sudden, severe epigastric pain, radiating to the right costal arch (at times to left), through to the back or scapular region, spasm of the diaphragm, upward pressure, gas, nausea, vomiting, and after a longer or shorter terrific attack comes sudden cessation and, until complications occur, almost immediate return to health. Sudden onset, and sudden cessation without apparent cause or without treatment, are quite peculiar to gall-stone disease when no complications are present. These attacks come irregularly, night or day, and oftenest bear no relation to food, though often called acute indigestion, gastralgia, neuralgic stomach and other equally incorrect names.

4. The fourth condition is that of chronic gall-bladder trouble—adhesions, duct obstruction, perforation, contractions and duct infections—with pancreatitis. Often in this class chronic gastric disturbances predominate, and the picture is so closely related to chronic ulcer with complications that a differential diagnosis cannot be clearly made if only present symptoms are considered. A correct diagnosis depends on the development of the early history. However, the chief end is obtained when the necessity for surgery is realized, and the patient is sent for relief with a diagnosis of a surgical abdominal trouble.

### III. CHRONIC APPENDICITIS

In reviewing our histories of chronic appendicitis in which stomach symptoms predominate, we find that there is a neurotic element running through many of the cases. Whether this is an inherited taint or due to the chronic disability we do not know. Sex plays no important part. The average age is less than in either chronic ulcer or gall-bladder sufferers. In the former it is 45, in the latter 40, and in chronic appendicitis 34 years.

### CHARACTER OF ATTACKS

We note in general that the symptoms are irregular when compared with chronic peptic ulcer; prolonged when compared with gall-bladder trouble; the exceptions being, ulcer with complications, gall stones with duct obstruction and infection. If the attacks of chronic appendicitis be short they lack the regularity of ulcer, are usually more severe, unless perforative ulcer be considered. When studied with gall-stones there may be less distinction, but the characteristic radiation of the pain of gall-stones is wanting, and the clear-cut gall-stone attack is poorly simulated. The whole syndrome is blamed to food intake directly more often than in ulcer, and still more frequently than in gall-bladder disturbances.

Exertion is a factor often laid at the door of appendiceal attacks; rarely is this true in peptic ulcers and gall-stones. Then, too, absolute disability, so that the bed is sought, is common during an appendiceal course, and is rare in ulcers, except bad hemorrhages, perforations and other late complications, when nutrition suffers greatly. In gall-stones the bed is seldom taken to except at the crisis, or in common-duct obstruction, infection or severe pancreatitis, and even then as a rule we find our patients about. We note the chronicity and the periodicity in all, but chronic appendicitis lacks the regular relief to all symptoms on taking food, d the regular return of pain in one to four hours. In ronic appendicitis the food instead of bringing ease produces early if not immediate discomfort; one meal giving one effect, the next meal quite another. Rarely do meals give ease in appendicitis, except in some hyperacid conditions, and in this relief there is no regularity meal by meal or day by day, as in ulcer. When we turn to gall-stones, there are the short, clear-cut attacks with sudden onset and sudden relief, mild or severe, with the severer cases giving typical radiation, and, when relief comes, perfect health instead of a few or many days of general disability.

### PAIN

chronic appendicitis is the great prevailing nd is often manifested by a queer distress. not seem so often to reach the severity it does in gall-stones, but is more prolonged; neither does it so often reach the constancy and intensity during the whole attack as it does in decided cases of chronic ulcer. However, it is not the kind, the degree, the location or the radiation, nor is the time of the pain so great a factor as it is in ulcer. The time of the pain is irregular. During an attack pain oftenest appears soon after, or is caused directly by, food, save in those rather rare instances of highly acid condition, or when, from fear of food light diet has heightened the appetite, at which time food gives short respite. Often there is present rather continuous pain or rather a continuous distress which is epigastric, or so indefinitely abdominal that the patient describes it as epigastric, when really it is abdominal. There is not the clear-cut repetition and definite pain of ulcer, nor the clear-cut definite gall-bladder attacks; neither is there so often the definite location of the pain. Nausea, distress, flatulence and a feeling of distention covers the sensations of far more patients with chronic appendicitis than of chronic peptic ulcer or gall-bladder disease. The degree and the kind of pain are not specific, but have a bearing. Severe pain points to acute appendicitis, which we are not considering here.

### LOCATION

Location of pain has a bearing, though we may have only epigastric pain complained of in any or all three conditions. In gastric ulcer the pain is purely epigastric, except in perforation, great dilatation and prolapse conditions. In gall-stones it is epigastric, with *radiation* to right and to back, or a sore and tender feeling in any part of the liver area. In chronic appendicitis it may be epigastric only, but often indefinitely epigastric and abdominal, in low gall-bladder or high appendix area. Then the radiation is usually *nil* in ulcer, to right costal arch and back in gall-bladder, indefinitely or plainly abdominal in chronic appendicitis.

With attacks of dyspepsia with epigastric pain, with radiation to or about the umbilicus or lower abdomen, hold first and clearly to appendiceal disturbance, keeping in mind peptic ulcer and gall-bladder trouble with possible complications. A tender area is often found at McBurney's point when not at all complained of subjectively.

### CONTROL OF SYMPTOMS

When we come to control of symptoms, we find a clear-cut difference. Food, drink, alkalies and irrigation bring more or less complete and immediate relief in uncomplicated peptic ulcer, the symptoms returning regularly within a few hours at most.

In chronic appendicitis anything taken into the stomach usually disturbs, and only rarely brings relief, and if some ease is felt it is not regular and complete. Vomiting may bring relief in chronic appendicitis, but rarely so completely as in ulcer, and vomiting is much less constant in chronic appendicitis, and hence is less a factor.

In the usual run of uncomplicated gall-stone diseases food does not give much evidence of being a direct cause of the painful attacks.

### EARLY HISTORY

Before leaving the subject of pain we would call attention to attacks in childhood or early youth of diarrhea or "stomach ache," more commonly termed "belly ache," as these attacks are usually abdominal. The attacks, the histories of which are often clearly recited, are typical appendicitis, and are the logical forerunners of the later dyspeptic attack. Then, too, recall the history of years of indefinite dyspeptic symptoms, followed by a typical appendiceal attack, with operation and the cure of the dyspepsia. Let us not forget that in any abdominal attack with prominent gastric symptoms, where a history of pain about the umbilicus or lower abdomen is definite, we should hold first and clearly to appendiceal trouble, not forgetting gall-stones, ulcer, pelvic tumors (ectopic pregnancy) and perhaps general constitutional disease—Bright's disease, tuberculosis, etc.

### VOMITING

Vomiting in ulcer is usually regular (except in complications), one to four hours after meals when all symptoms are at their height. It is sour, acrid, bitter-burning liquid, perhaps with some food. Ease follows the vomiting, and the vomiting is allayed by food taken, as are all other distressing symptoms. In gall-bladder cases the vomiting is only at the crisis, and is a bitter, acrid mucus, unless by chance the spasm follows closely the ingestion of food. In chronic appendicitis vomiting is not so prominent a symptom as in ulcer and does afford a marked degree of relief. It is irregular during the attack, but when it does appear it closely follows food, and consists of food rather than sour liquid, though both may be present. Nausea rather than vomiting is a characteristic.

### GAS

In chronic appendicitis discomfort from gas makes up more the general complaint than it does in ulcer. There is abdominal distention of gas scarcely located by the patient. Gas is belched, but not so much as in ulcer, and there is not the intense feeling of gas distention as is experienced at the height of a gall-bladder attack. The amount of sour eructations is not so great as in ulcer. In chronic appendicitis the patient is conscious of a feeling of slipping of gas in the bowels, and its passage gives a peculiar sense of relief, as at times do bowel movements. In this rather quiet and general way gas aids in the diagnosis.

### BOWELS

Constipation is one of the early symptoms of appendicitis, and may be the only one for a considerable period. It is usually marked, though spells of diarrhea occur and usher in an attack. Free movements give considerable ease. Mucus is present though not distinctive.

### APPETITE

In chronic appendicitis the appetite often fails, or it is so variable that this helps in distinguishing appendicitis from ulcer. At other times food is refused because of immediate distress, and when both factors are in action nutrition suffers. In ulcer the appetite rarely fails, except late, and if food is refused it is because of the pain, distress and vomiting that follows one to four hours later. Nutrition therefore usually suffers along the whole course of chronic appendicitis as a result of the diminished appetite or lessened intake of food, because of the immediate distress which follows. If nutrition suffers in early ulcer it is because of vomiting or due to diet to avoid late distressing symptoms. Nutrition rarely fails in gall-stones until pancreatitis or complications supervene.

### TEST MEAL

The test meal is of value in the diagnosis because it is so negative. In a paper[1] on "The Value of the Test Meal in Gastric Diagnosis" we called attention to this fact. There are no food remnants in the meal, hence no obstruction, and this is evidence of value. The stomach is usually normal in size and position and the acids oftenest within the normal limits, though in some cases they may be high. No organic acids, no bacteria or blood, as a rule, are present.

### TREATMENT

Treatment in chronic appendicitis will scarcely bear discussion. In ulcer of the stomach we do have medical cases in greater number than surgical cases. In gall-bladder diseases we may be pardoned for advising some sufferers to take the Carlsbad cure or other methods of treatment that may influence the oncoming of the later stage, but chronic appendicitis can only justly fall to surgery, and any other advice when the diagnosis is made must be considered faulty and perhaps dangerous. However, we cannot meet all cases clearly with only gastric symptoms present—pain, vomiting, gas, etc. If no history is recalled of pain radiating to right costal arch or back, or if no general liver pain can be elicited, with no history of sudden, short, mild or severe epigastric attacks, with abrupt cessation and perfect health immediately following, we cannot say gall-stones. If with these same symptoms of pain, gas and vomiting, and with the same epigastric location we can get no early history of periods of attack with regular symptoms one to four hours after food, with clear cessation of symptoms following food, drinks, etc., but only symptoms of chronic complicated ulcer, then we cannot decide. So also with the same signs if we can get no history of childhood or youthful attacks of diarrhea or "belly ache," no radiation of pain to the umbilicus or lower abdomen, no tenderness at McBurney's point, or other local manifestations, but only chronic gastric symptoms, then we cannot diagnose undoubted appendicitis. What we can say is, "You have a serious trouble, perhaps in the upper abdomen, and surgery affords the great chance of relief," and it should be accepted. If at operation the surgeon finds the upper abdomen normal, let him next look to the great likely point, the appendix. This holds out many promises of relief.

### SUMMARY OF CASES

Of the patients 58 were females, 57 males. The average age was 34 years and the average duration 7½ years.

All patients have regained normal weight; many are above previously normal weight; none has lost weight.

| Condition. | Number Cases. | Per Cent. |
|---|---|---|
| Cured; no symptoms | 89 | 77.4 |
| Very much improved | 7 | 6 |
| Improved: some occasional return of symptoms. | 13 | 11.3 |
| No improvement | 6 | 5.2 |
| Total | 115 | |

Condition of the appendix found at operation, classified pathologically:

| | No. Cases. |
|---|---|
| Chronic appendicitis with fecaliths | 58 |
| Chronic adherent appendices | 20 |
| Chronic appendicitis | 14 |
| Chronic obliterating appendices | 8 |
| Chronic appendicitis, cystic tip | 6 |
| Subacute appendicitis | 6 |
| Carcinoma of appendix | 1 |
| Tuberculosis of appendix | 1 |
| Acute appendicitis | 1 |
| Total | 115 |

## STRANGULATED HERNIA IN AN INFANT OF FOUR MONTHS

N. K. HOPKINS, M.D.
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I report the following case of strangulated hernia in an infant 4 months old. Such cases are not common in patients under 2 years of age:

*History.*—Infant J. V., male, white, aged 4 months, the only living child of Dutch parents. The last statement partially explains why my orders were not always carried out, as the mother could not understand English. Two years before this child was born the mother was delivered of a full term child by embryotomy. The present child was delivered by me, August 15, 1909, by version and extraction; the mother having been in labor five days before I was called and the head having made no advance. The child was perfectly developed, weighing seven pounds at birth. The mother had plenty of breast milk for two weeks and then began feeding the baby on the bottle without notifying me, the food used being three parts milk and one part water. The bottle was given whenever the child cried. From that date the child became constipated, had colic, and cried a great deal.

I did not see the baby again until Nov. 4, 1909, when I was called to see another member of the family, at which time I prescribed for the baby a weak milk mixture, with resulting improvement in the intestinal condition. My instructions were followed for only a short time and soon the child was suffering with colic again.

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[1] New York Med. Jour., Sept. 4, 1909.

Dec. 9, 1909, I was called and found a bubonocele as large as a hickory nut on the left side and a smaller one on the right side, both of which had appeared the week before. These were easily reduced and held in place by a pad and figure-of-eight bandage. December 25 I was called and informed the hernias had been all right until the morning of December 24, at which time the parents had not been able to reduce the left one and the child had been in great pain ever since. I was unable to reduce the hernia so I took the patient to the hospital at Volga, S. D., and operated immediately, thirty hours after the strangulation took place.

*Operation.*—An incision was made directly over the tumor. Within the sac was a loop of intestine, some omentum, and free fluid. The intestine was badly inflamed and adherent to the internal ring, but as there was no sign of gangrene I returned it to the abdominal cavity and did a Bassini operation.

*Result.*—The child made an uneventful recovery, returning home in two weeks. During its stay in the hospital the constipation was entirely overcome by a milk mixture suited to a child of three months; its weight increased and the signs of malnutrition present were fast disappearing.

# ETHER: AN ANTIDOTE OF COCAIN AND STOVAIN POISONING

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Directly after the introduction of cocain to the medical and dental professions, a number of accidents were reported, many of them fatal. The novelty of the drug and its effects were fascinating, and the want of experience and knowledge of its dangers, unrealized as they were by the majority of physicians, made it an extremely dangerous agent in other than the most careful hands. In common with most practitioners, I had my share of cases of cocain poisoning, though fortunately none proved fatal. By far the greater number of deaths occurred in the hands of dentists. The use of the drug was an almost daily occurrence in their practice, and they seemed especially prone to disregard its dangers.

About fifteen years ago I had as a next-door neighbor a dentist with a very large extraction practice, and it became a not uncommon occurrence for me to be called in hurriedly to help revive some patient. To my knowledge, he had at least fifteen cases of cocain poisoning. Some were mild cases; many were profound and extreme. The symptoms were rapid and shallow respiration, feeble or absent pulse, with unconsciousness; in some cases the patients were difficult to revive. Nearly all exhibited extreme mental anxiety and restlessness.

In the first few cases I was called on to treat, strychnin and morphin in combination were used with marked benefit. But, as cases kept multiplying, I found the action of these drugs too slow, and I decided that there must be something to counteract the poison more rapidly when life was in extreme danger. It was necessary to find a remedy that could be administered at any time and be instantaneous in its action. I soon found ether to be the required drug. This was administered as ordinarily given to produce surgical narcosis. Ether stimulates the vasomotor system, is a tonic to the heart muscles, stimulates the action of the respiratory centers and of the brain and of the pneumogastric nerve, and increases the pulmonary circulation in the first stages. While cocain inhibits the action of the heart, especially on the right side, it has also a marked inhibitory action on the respiratory centers of the brain. Death may occur from feeble respiratory movements of the so-called Cheyne-Stokes type, or asphyxia.

To me ether has proved extremely valuable. It has saved what seemed hopeless cases. It stimulates the heart and the respiratory system almost instantly. The pulse beomes fuller at once and of normal tension. The marked mental excitement is allayed as the patient goes under the influence of the ether, and the effect of the poison rapidly disappears. The individual regains consciousness as soon as the effect of the small amount of ether has disappeared.

To get the best results, the anesthetic is administered only to the degree of mild surgical narcosis, or, at times, even less than this. A mask should be employed and the ether given by the drop method. This is all-important. Given by the old method, the ether would only add to the danger of asphyxia by excluding air from the venous blood engorged lungs.

It occurred to me that this suggestion might be of help to others as it has been to me. Just at present there is much interest in the work of Jonnesco and his use of stovain. Many physicians will undoubtedly be led to try stovain, or cocain, or some other synthetical preparation whose action is similar. While in Paris some years ago it was my privilege to witness Tuffier perform a number of operations under spinal anesthesia with cocain, all done in the brilliant style of this acknowledged master of surgical technic. In the last operation I saw in his clinic the patient did not bear the drug well, but began to show some very dangerous symptoms, and, in spite of the usual remedies, was soon *in extremis*. At my suggestion a few drops of ether were administered and all dangerous symptoms disappeared immediately.

# POLAR LIGATION IN EXOPHTHALMIC GOITER

## STAMM AND JACOBSON'S OPERATION

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INDIANAPOLIS

*Patient.*—Mrs. H. of Oaklandon, Ind., was examined by me for the first time, Oct. 26, 1909. She was 36 years old, tall and of excellent physical development. The family and personal history were negative so far as any factors bearing on the status præsens were concerned, except, of course, the record of the illness here described, which had for two years run the course of a relatively typical case of exophthalmic goiter. Tachycardia had been from the beginning a prominent symptom.

*Examination.*—The pulse-rate at the time of the first examination ranged from 140 to 180, depending on such factors as rest, exertion, mental excitation and menstruation. The pulse cannot be said to have been regular, though perhaps not so markedly arrhythmical as in some cases of the most extreme type. The visible area of cardiac pulsation was distinctly increased and capillary pulse and throbbing pulsation of the large arteries were easily seen. The heart sounds were accentuated and heard at some distance. Exophthalmos was pronounced. Graefe's sign was present; the upper lid did not follow the eyeball. The palpebral aperture was plainly wider than is normal. Moebius' sign relating to the lack of convergence of the two eyes was *positive*. The thyroid gland was symmetrically enlarged to about six times its normal dimensions. Fine tremor of the spread fingers was likewise present. In addition to these symptoms there were present exhausting neurasthenia with insomnia, loss of flesh and muscular weakness. Glycosuria and albuminuria were absent.

*Treatment.*—Previous to this examination there had been no other treatment than the use of simple tonics. Neither protracted rest nor the ice-bag over the heart had been tried. Serum had not been used, nor had thyroidectin been employed. I believed that surgery at present offered the best chance for permanent relief in such cases. Thyroidectomy had proved efficient in my hands in two previous cases of exophthalmic goiter, but appreciating the dangers of a radical operation—dangers obvious to those who have extirpated the thyroid in exophthalmic goiter—I made in this case a polar ligation, a procedure recently presented by Dr. Martin Stamm of Freemont, Ohio, and performed by him and Dr. J. H. Jacobson of Toledo in a total of 11 cases, prior to October, 1909, with very satisfactory results. The operation, briefly, consists in ligating *en masse* without the capsule the two upper horns or poles of the thyroid.

Dr. J. H. Jacobson, in a personal communication, briefly describes the technic as follows:

> After carefully palpating and determining the position of the upper pole of right lobe, a transverse incision is made directly over it. The incision is one to one and one-half inches long and extends through the skin, superficial fascia, platysma, down to deep fascia, when the inner border of the strenomastoid muscle can be seen. The inner border of the sternomastoid is then loosened, raised and retracted, exposing the fibers of the sternothyroid muscle, which run in the opposite direction to those of the sternomastoid. These fibers are separated for about one inch; the deep fascia covering the thyroid will then be exposed. This fascia is next divided, and the capsule of the gland brought into view. The muscles are well retracted by blunt hooks. A ligature carrier or a large curved pedicle or aneurism needle is used to pass the ligature. The material used for ligation has been mostly linen or silk. Theoretically it seems that heavy black linen, on account of its slowness of absorption, is best.
>
> In passing the ligature around the upper pole on the right side, the blunt needle is passed from within out, while upon the left it is passed from without in, after first freeing and raising the pole somewhat by blunt dissection.
>
> Theoretically at least, it seems that the ligatures should be placed extracapsularly for the reason that the lymphatic vessels of the gland parenchyma empty into the lymphatics contained within the capsule, and that the extracapsular ligature will more effectually stop the gland excretion.
>
> Some little resistance may be encountered in passing the blunt needle about the pole; this, however, is quickly overcome. When the blunt point of the needle has been passed, the ligature is grasped and the instrument withdrawn. By cutting the loop, we have two ligatures surrounding the gland pole. These are carefully separated and tied, leaving a space between them of from one-fourth to one-half inch.
>
> Immediately after ligation the gland tissue in the vicinity of the ligature becomes blanched.
>
> The closure of the wound consists in the approximation of the muscles by one or two interrupted catgut sutures, followed by approximation of superficial fascia and skin.

It is believed by Stamm and Jacobson that the toxic principle in exophthalmic goiter escapes from the gland principally through the lymphatics and it will be seen that the polar ligation contemplates embracing in the grasp of the ligature not only the branches of the superior thyroid vein and artery, but the lymphatics as well.

In my case the polar ligation has been followed by steady improvement. The pulse-rate ranges now between 80 and 100 (January, 1910). The tremor is decidedly lessened and Stellwag's sign is no longer demonstrable. As might be expected, the thyroid gland is decreased in size.

It is too early to pass judgment on this procedure; it would be difficult to tell of how much value was the rest in bed. Jacobson and Stamm have carefully eliminated to their satisfaction such sources of errors in their own cases.

It will be at once apparent that the procedure is essentially different from simple extracapsular ligation of the vessels. In active acute exophthalmic goiter the dangers of thyroidectomy are serious, even if the gland be removed by the Crile method to avoid psychic shock.

331 North Delaware Street.

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# TRACHOMA

## CULTIVATION OF A NEW BACILLUS *

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Since many have failed to cultivate the cause of trachoma, it seemed best to try special media. I had been doing some cultivation of the Koch-Weeks bacillus on 5 per cent. peptone, alkaline agar, and decided to try that same composition for the cause of trachoma, but, having in mind the fact that the gonococcus grows only in the presence of fresh blood or some exudate of the body, I added a sterile drop of blood from the ear of the patient from whom we tried to get the culture. This drop was smeared on the surface of the agar with a sterile platinum needle. At least one tube containing no attempt at culture was set aside in each case as a control of the securing of the blood in a sterile condition.

| No. | Case From | Smear. | Stain. | Culture. |
|---|---|---|---|---|
| 1. | Drs. Shattuck and Christiansen. | Negative | Giemsa, King, Dil. Carbol-fuch. | B. trachus |
| 2. | Drs. Shattuck and Christiansen. | Negative | Giemsa, King, Dil. Carbol-fuch. | Negative: |
| 3. | Dr. Stafford | Negative | Giemsa, King, Dil. Carbol-fuch. | *Aspergillus flavus* |
| 4. | Author | Negative | Giemsa, King, Dil. Carbol-fuch. | Negative |

As is seen, two of the four cases examined were negative culturally, and a third gave a very common mold, which I would not think for an instant was the cause of the disease when so many had tried to cultivate it and failed.

The other case gave a culture of *B. trachus, nev. spec.*, 1909.

I do not claim for this that it is the cause of the disease, on account of lack of evidence, but will publish the characteristics in the hope that some one else may be assisted in carrying on the work.

*B. trachus* is a small polymorphous organism about 1 micron long and generally about one-third as broad as long. No spores or granules were made out. It is nonmotile. It stains poorly with methylene blue, but well with dilute carbol-fuchsin, Wright-Romanowsky modifications and also with Giemsa. It grows slowly on 5 per cent. peptone alkaline agar, blood-smeared, in small white colonies which become visible to the naked eye on the second day, and reach their maximum size (about 1 mm.) in five or six days. The organism will not grow on acid media; it remains alive on proper media for more than a month, and on 5 per cent. peptone alkaline agar for at least ten days without the presence of fresh blood; and on addition of fresh blood at that time (no longer time was tried), it required no longer for the colonies to become visible than if they had been put on proper media at the start. Clear blood-serum and clear exudates were not tried, with the agar base. The organism does not grow on ordinary alkaline agar.

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* Work done in the laboratory of the Bureau of Science, Manila.

No positive results were obtained by animal inoculation. The conjunctiva of guinea-pig, rabbit and monkey (*Macacus philippinensis*) were used and no reaction was seen, though the animals were under observation for more than a month. The higher apes were not to be had for experimentation, and I did not think human experimentation justifiable; hence was not able to prove pathogenicity.

The fact that I was not able to secure the organism in all cases is somewhat against its being the cause of the lesions, but it grows with difficulty and it may be that my technic will be improved on. Stained in the cell (I was not able to stain it so), *B. trachus* might well have the appearance of the "trachoma bodies" described by various authors, several of whom are cited by Brown Pusey in his article on the subject in The Journal, July 3, 1909, liii, 28.

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# OBSERVATIONS DRAWN FROM ONE HUNDRED CASES TREATED BY VACCINE THERAPY

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It is my purpose in this paper to classify the cases which have been treated, first as to their type and, second, as to their amenability to therapeutic immunization, giving detailed description only of cases of special interest.

The technical terminology used in vaccine therapy, being very involved and confusing to readers not familiar with the literature of the subject, will be avoided; instead my effort shall be to convey my statements in relatively simple terms.

Since no radical changes have been made in the technic of late, it will suffice to say that I have largely followed the methods devised by Wright, omitting the estimation of the opsonic index as a routine.

The employment of vaccine therapy has been received with as large a degree of enthusiasm as was given to the *x*-ray in its early development, and has been accorded practically a like all-healing influence in all forms of infections. With the idea of testing the efficiency of the method, I have accepted all classes of infection and have satisfied myself as to its limitation in the present state of our knowledge.

It is the consensus of opinion among workers in bacterial therapy that autogenous vaccines produce the best results; therefore these were used whenever possible, but when time or conditions did not permit their preparation stock vaccines were used.

The estimation of the opsonic index, I am convinced, is at the present time the best means of controlling the dose of the vaccine employed, but since it is so rarely necessary, and consumes so much time, I have omitted it as a routine, employing it only in cases in which my clinical rules were not a sufficient guide.

### CLINICAL RULES FOR DOSES

No hard and fast rule for dosage can be made, inasmuch as different strains of the same organism have different degrees of virulence and the patients as many different degrees of susceptibility. Generally speaking, the more acute the infection the smaller the dose. Chronic cases, on the other hand, sometimes require enormous doses to bring about the desired effect.

In a case of pustular acne with a staphylococcus as the causative organism, for example, it has been my custom after preparing the vaccine, to inoculate the patient with an initial dose of 200,000,000 staphylococci, instructing him to return at the end of seven days. If at this time his pustules are fewer in number, more superficial or smaller, he is instructed to return three days later. If at this time he tells me that his face is not as clear as it was on the ninth day, he is reinoculated and instructed thereafter to return every eighth day, assuming that at this time his immunity had reached its height and by reinoculation will be held there. The initial dose is used until improvement lags, when it is doubled.

In cases of mixed infection, as for an example, an empyema, with a staphylococcus and a pneumococcus as the causative organisms, I first make a smear from the pus of the discharging sinus, stain it, and estimate the numerical proportion of the two organisms present, and hold to this ratio in inoculating the patient with the corresponding vaccines. Occasionally this method will not suffice and the estimation of the opsonic index must be resorted to.

I have found that rapid results can be produced by large doses at the first inoculation, but that the succeeding ones are not nearly so satisfactory. The best results were obtained by beginning with a minimum dose capable of producing results and increasing as directed above.

In nine children, varying in age from 3 months to 2 years, whom I have treated for general furunculosis, 50,000,000 staphylococci made a satisfactory initial dose, and in six cases 200,000,000 were given without untoward results before inoculations were discontinued.

Too much stress cannot be laid on the subject of doses. I am convinced that many failures are due to incorrect dosage and improper spacing of inoculations.

I have divided my cases into four classes, as to their type, duration, severity, and amenability to therapeutic immunization.

Class A.—Subacute infections, with pyemia as a type.

Class B.—Chronic infections, with pustular acne or an otitis media as a type.

Class C.—Acute localized infections, with erysipelas or acute cystitis as a type.

Class D.—Acute general infection, with septicemia as a type.

Of these four classes the most amenable to bacterial therapy are Classes A and B, or the subacute and chronic infections, next the acute localized infections, and lastly, if at all, the acute general infection.

As stated in the opening paragraph, further to explain what vaccine therapy may be expected to accomplish, it will be necessary to discuss a typical case of each class taken from the tabulated report appended to this article.

### CLASS A: SUBACUTE INFECTIONS

*Patient.*—Mrs. B., aged 29, married, admitted to St. Alexis Hospital, gave a history of eight weeks' illness following an abortion committed on herself by inserting a piece of slippery elm into the uterus. At the time she performed the abortion she had an infected finger on the right hand which she used in performing the operation. Three days after the discharge of the fetus she had a chill, a physician was called and advised a curettage, which was done, but nothing of importance was found in the uterus. From this time up to her admission to the hospital her temperature varied from 101 to 103; pulse 120. There was steady loss of weight and occasional diarrhea, loss of appetite, slight seropurulent uterine discharge and some tenderness over the lower part of the abdomen. After her admission to the hospital a smear from the uterine discharge showed a *Staphylococcus aureus*.

*Treatment and Course of Disease.*—An autogenous vaccine was prepared and the patient inoculated with 200,000,000 staphylococci. On the following morning large wheals resembling urticaria appeared all over the body, and the temperature reached 104, pulse 150. The following day the temperature dropped to 100, pulse 90, and the wheals began to disappear. Three days later the temperature reached normal and her pulse to 90, and the patient expressed herself as feeling well. On the eighth day, with the temperature still normal, pulse 80, another inoculation of 200,000,000 staphylococci was given. Steady improvement followed for three weeks when the temperature again rose to 100 and pulse 120. On examination a pelvic abscess was found and opened per vaginam, after which the temperature again came to normal. From now on the patient's recovery was uneventful and after four weeks was discharged from the hospital recovered, having in all received four inoculations.

In this class of cases, owing to the facts that the areas of infection are walled off by fibrin, which for the want of a better term, may be called a pyogenic membrane, and that the organisms causing the infection are usually of comparatively low virulence, the antibodies of the blood are either so slowly, or slightly, stimulated that the immunizing machinery of the body becomes accustomed to their presence, or is not sufficiently irritated at any one time to produce a sudden attack which would result in a spontaneous cure as occurs in the crisis of pneumonia.

If now in these cases a little additional stimulus can be given to the immunizing property of the blood, a crisis will result. This is precisely what a vaccine accomplishes. The organism producing the infection, after being cultivated and carried through the necessary steps of the laboratory technic, is then introduced into and set free in the patient's blood, thereby contributing the necessary stimulus.

Under this classification I have treated otitis media of two or three weeks' standing, subacute cystitis, palmar abscesses, furunculosis, carbuncles, and infections following injury.

Cases under this class were chosen as most suitable to bacterial therapy because the results were uniformly good and permanent.

CLASS B: CHRONIC INFECTIONS

The results in this class of cases were satisfactory, although not as uniformly good, as striking or as rapidly produced, as those of Class A, and this for at least two reasons:

1. In the patients presenting themselves for treatment under this classification, the infection had existed from six months to a lifetime. During all this time the immunizing machinery of the blood had been so often and so gradually stimulated by autoinoculation that it had accustomed itself to the presence of the causative organism in the body. When this condition and no mechanical interference to the circulation is present good results are produced, but the number of inoculations required may be three or four times as great as in similar cases in Class A.

2. Some infections of years' standing, as, for example, an old abdominal sinus, are so thickly walled off by fibrin that little blood can reach the part, on account of the mechanical interference present. One can readily understand how ineffective a vaccine of itself would be in this condition. If, however, a 0.5 to 1 per cent. sodium citrate solution can be injected into the sinus two or three times a day so that by the power of osmosis serum is brought to the part, good results can be obtained. I have an interesting case in a thoracic empyema illustrating this point.

*Patient.*—Mr. S., aged 25, gave a history of an attack of lobar pneumonia followed by a pyothorax, in the fall of 1907. A resection of a part of two ribs was done and drainage established; after the third week the discharge lessened to about 4 drams a day. This condition persisted with slight improvement and six months ago the patient was referred to me for therapeutic immunization.

*Treatment and Course of Disease.*—An autogenous vaccine of a pneumococcus and staphylococcus was prepared and four inoculations of 200,000,000 staphylococci and 300,000,000 pneumococci were given at seven-day intervals, but with no improvement. From this time on the sinus was irrigated twice daily with a 1 per cent. sodium citrate solution with almost immediate improvement, and after nine inoculations the discharge completely disappeared and has never reappeared.

Inasmuch as so little is yet understood about the mechanism of immunization, many unexplainable things occur in the practice of this form of therapy.

One is occasionally surprised to find a chronic condition, as in the following case, respond rapidly to bacterial therapy, when no other measure of treatment is used and where little benefit is expected.

*Patient.*—Mrs. W., aged 30, was referred to me for therapeutic immunization for otitis media. Her ear had discharged almost continuously since she was six months old. Three years age she submitted to a radical mastoid operation. Her recovery was prompt and the discharge stopped for six weeks—the longest absence of discharge in her lifetime. At the end of the seventh week the discharge began anew, and after two

TABULATED REPORT ON RESULTS OF 100 CASES TREATED BY VACCINE THERAPY

| Kind of Infection. | Duration of Infection. | Number of Cases. | Organisms Producing Infections. | Average Number of Inoculations. | Number Cured. | Number Improved. | Number Not Improved. | Average Interval Between Inoculations. Days. | Deaths. | Cause of Death. |
|---|---|---|---|---|---|---|---|---|---|---|
| Pustular acne | 6 months to 3 years | 19 | [illegible] | 15 | 7 | 10 | 2 | 8 | | |
| Pustular eczema | 3 months to 8 years | 3 | [illegible] | 12 | 3 | — | ...... | 9 | | |
| Tinea sycosis | 1 week to 3 weeks | 4 | [illegible] | 4 | 4 | ...... | ...... | 7 | | |
| Furunculosis | 4 days to 10 weeks | 14 | [illegible] | 6 | 14 | ...... | ...... | 7 | | |
| Carbuncle | 7 days to 3 weeks | 3 | Staphylococcus aureus | 5 | 3 | ...... | ...... | 8 | | |
| Gonorrheal arthritis | 2 weeks to 14 weeks | 14 | Gonococcus | 9 | 9 | 1 | 4 | 10 | | |
| Pyemia | 2 weeks to 8 weeks | 5 | Staphylococcus albus and aureus | 5 | 4 | ...... | ...... | 7 | 1 | Cerebral embolism. |
| Posterior urethritis | 2 months to 4 years | 6 | [illegible] t bacillus | 12 | 0 | 0 | 6 | 8 | | |
| Cystitis | 5 days to 3 months | 4 | [illegible] | 6 | 3 | ...... | 1 | 7 | | |
| Otitis media | 2 weeks to 30 years | 3 | [illegible] acillus | 7 | 2 | ...... | 1 | 7 | | |
| Thoracic sinus | 6 months to 3 years | 3 | [illegible] cus, staphylococcus albus. | 15 | 1 | 1 | 1 | 8 | | |
| Bronchiectasis | 1 month to 17 years | 3 | Pneumococcus, staphylococcus, streptococcus and unidentified organisms. | 20 | 1 | ...... | 2 | 7 | 1 | Cerebellar abscess. |
| Abdominal sinus | 2 months to 3 years | 4 | Colon bacillus, staphylococcus albus | 10 | 1 | 2 | 1 | 8 | | |
| Erysipelas | 1 to 14 days | 9 | Streptococcus | 2 | 8 | ...... | ...... | 4 | 1 | |
| Septicemia | 2 to 4 days | 7 | Streptococcus | 5 | 3 | ...... | ...... | 3 | 4 | Septicemia. |

years' subsequent treatment by an otologist she was referred to me for vaccine treatment.

*Treatment and Course of Disease.*—A smear from the discharge showed a staphylococcus and a short unidentified bacillus. A vaccine of the corresponding organisms was made and the patient inoculated with 200,000,000 staphylococci and 300,000,000 of the unidentified bacilli. After four inoculations the discharge stopped completely. After the fifth inoculation it started again, and after the seventh inoculation it disappeared. Three more inoculations were given without its return. Four months have passed since the last inoculation and the discharge has remained absent.

The cases treated under this classification were pustular acne, tinea sycosis (barber's itch), pustular eczema, gonorrheal arthritis, cystitis, furunculosis, abdominal and thoracic sinuses.

How long do the patients remain well after inoculations are stopped?

Before answering this question, it might be well to mention that practically all patients with chronic infections presenting themselves for therapeutic immunization have been suffering from six months to a lifetime, and from time to time have been under the care of several physicians, so if they are only benefited a great deal has been accomplished. This, however, is not the usual result. At least 40 per cent. of the patients are permanently cured, 50 per cent. improved, a total of from 75 to 90 per cent. markedly benefited, 5 per cent. slightly benefited, and the remaining 5 per cent. not helped at all.

### CLASS C: OR ACUTE LOCALIZED INFECTIONS

At the suggestion of vaccine therapy in this type of infection two questions immediately present themselves to the mind:

1. Have the number and virulence of the organisms producing the infection been so great as to produce a marked negative phase or temporarily to paralyze the immunizing machinery of the blood by over-stimulation? This phenomenon, we know, can take place, as illustrated in chronic infections by the marked negative phase lasting five or six days which can be produced by large doses of vaccine, and which results in a temporary aggravation of the condition present.

2. Have the number and virulence of the causative organs been great enough to stimulate the antibodies of the blood to the height of their action? The estimation of the opsonic index is the surest means of answering these questions. No clinical rules can be made with any degree of accuracy, although I might say that vaccines were not effective in acute, rapidly spreading infections.

Should the opsonic index be markedly low, showing an over-stimulated condition of the immunizing machinery of the blood, a vaccine could be expected to do little less than harm. Should it be relatively high, vaccines in small doses repeated every other day are capable of doing good.

In three instances in a series of 9 cases of erysipelas treated, the crisis was produced within three days from the onset of the disease. One patient died of acute dilatation of the heart, and the remaining five ran the usual course of the disease.

Since such a large percentage of erysipelas patients recover rapidly of their own accord, I think that vaccines, instead of being used as a routine in the treatment, should be reserved for those cases running an unusually long course or those accompanied by abscesses, which are occasionally seen.

Palmar abscesses, or other acute localized infections in other parts of the body, respond best to therapeutic inoculations five or six days after drainage has been established. At this time they may be classed as subacute infection, which, as has been said previously, are most amenable to this form of therapy.

### CLASS D: ACUTE GENERAL INFECTIONS

Here we have an infection with a causative organism, usually the staphylococcus or streptococcus, alive and free in the blood stream. What value can be gained by inoculating the patient with a few million more dead ones, when he already has an overabundance of the best stimulus which can be hoped for?

If we are willing to accept the theory advanced in explaining the results in cases under Classes A and B, we cannot consistently believe that vaccines would do septicemia any good. To satisfy myself as to the limitation of the method, however, and since no other means of treatment are of much value, I have accepted 7 cases for this form of treatment. Three of the patients recovered. Since the mechanism of immunization is as yet not understood, I have no right to say that vaccine did not play a part in their recovery, but I feel that they would have recovered just as rapidly without its use. Too much credit should not be given to its use in the cases of recovery until its reach in this infection has been determined by a sufficient number of cases. The therapeutic measures previously relied on in the cases now so satisfactorily treated by vaccine therapy are as good to-day as they ever were and their abandonment would be an extravagance.

Cases of pustular acne or eczema which receive required constitutional and local treatment in addition to therapeutic inoculations respond more rapidly than if vaccines were used alone; likewise cases of gonorrheal arthritis should receive hyperemic treatment of the affected part in some form. Abscesses and sinuses should be given the best advantages of drainage, etc.

With this combination we have a means of successfully treating a large number of infections previously beyond the reach of other therapeutic measures.

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# COCCYGODYNIA

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Coccygodynia—pain in the coccyx—is an annoying, painful and fairly frequent affection, occurring usually in women and caused almost invariably by a fall in which the patient lands in a sitting posture and injures the coccyx. The injury as a rule is a fracture. It is followed by pain at the seat of the injury, worse on sitting, on rising from sitting and on defecation. The pain may be severe and is wont to be accompanied by various neuroses.

The diagnosis is made by pressure on the coccyx with the examining finger, or with the finger in the vagina or rectum and the thumb on the coccyx. This pressure elicits pain. The coccyx may or may not be movable; it may be in its proper relation with the sacrum, or it may be bent forward at an angle.

The ordinary treatment by a rubber cushion to sit on, or even by a resection, is highly unsatisfactory. For years I have treated these cases by a method that is almost uniformly successful, but appears to be not generally known. I do not think it is original, but I have used it for so long that I forget where it was obtained.

It consists of massage of the coccyx by means of the forefinger in the vagina and the thumb on the outside, holding the bone between them. The bone is moved backward and forward, and the soft parts are moved about on the bone. The manipulation is begun very lightly and gradually increased in force as the patient becomes less sensitive. Usually two or three treatments at intervals of two or three days will suffice for a cure. The improvement is almost instantaneous.

201 West Fifty-fifth Street.

# ENTOTIC TINNITUS, PERCEIVABLE OBJECTIVELY, IN PREGNANCY

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In January, 1907, Dr. R. A. Lancaster of this city requested me to see Mrs. T., aged 30, who was complaining of a noise in her left ear which was so persistent and annoying that sleep was greatly interfered with and decided nervous symptoms had appeared.

The woman was eight months pregnant and the noise had begun about a month before my visit to her. Examination showed nothing abnormal in either the conducting or the perceptive mechanism. Any one within six inches of the patient's left ear could easily hear a fine chirping sound synchronous with each systole of the heart, and disappearing with pressure on the external carotid. An auscultation tube greatly magnified the objective sound, which was very much like the chirp of a sparrow. No aneurismal bruit could be discovered about the head, and urinary analysis and ophthalmoscopic examination failed to reveal any pathologic lesions. The woman was rather large and well built, and had experienced no trouble in her pregnancy until the tinnitus appeared. No syphilitic history could be elicited, and iodids and bromids failed to give any relief. Immediately after the uterus emptied itself the tinnitus disappeared and there has been no recurrence.

As there are so few cases of this kind reported, this one seems worthy of record.

1409 Gervais Street.

# THE MORO REACTION DISCREDITED AS A PRACTICAL TEST FOR TUBERCULOSIS

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At intervals during the past eighteen months I have been resorting to the Moro test as an aid to diagnosis in suspected tuberculous cases. I have not kept a record of the number of applications made during that period, but would roughly estimate them as about forty. With the exception of perhaps five, there has been a more or less positive reaction in each case. I have permitted these reactions to influence me in making my diagnoses. In a number of instances I could hardly credit the evidence, there being almost no clinical indications to correspond, the test having been used more with the thought of resorting to every possible aid than from any definite suspicion of tuberculosis.

Gradually I became skeptical as to the test having clinical value. Recently I applied half of a tube in a case in which there was some obscurity and yet nothing to warrant a strong suspicion of tuberculosis. The remainder of the same tube I applied to myself as a control. In forty-eight hours the patient and I were both showing marked reaction, having extensive areas presenting areolæ with papules, many of these tipped with vesicles. As to myself, I am of a ruggedly healthy type, having been at top weight without considerable variation for four years, and present no clinical evidence of any illness whatever warranting even a consideration of tuberculosis.

About this time I learned that a number of the internes and nurses at the Indianapolis City Hospital had applied the Moro to themselves and that all of them presented a more or less typical papulovesicular rash with reddened base. In conversation with other physicians I found several who could not believe tuberculosis as prevalent as indicated by this reaction. Looking about for a fair clinical test, I asked for volunteers from one of our student sections in the Indiana University School of Medicine. Seven responded, including two internes in the Indianapolis City Hospital.

In five of this group the reaction was positive and marked. In two it was slight, the rash being more scattered, smaller and with less associated redness. In one only did the skin remain clear. Now I submit that the above statements give good ground for skepticism.

Now, the crux of the situation lies in this: that all over the country men are permitting themselves to make diagnoses on this insufficient and shadowy evidence.

If an individual has no clinical evidence of pneumonia and goes about his work the picture of health and well-being, he is not to be considered as a pneumonic because the pneumococcus is discovered in some of the pharyngeal secretions, or because he possibly might yield some remote and hair-splitting serum reaction. To carry the analogy still farther, it may be asked what the deduction is if the hypothetical serum reaction is the sole evidence, and the pneumococcus has not even been determined. The absurdity becomes more apparent; and yet this is exactly what we have been doing when we place diagnostic dependence on the Moro tuberculin reaction.

Suppose, for the sake of illustration, an individual admittedly free from any immediate syphilitic taint; further, let his immediate progenitors be granted to have been equally free from syphilis. Somewhere back in the line, however, perhaps three or four generations, there was a syphilitic. Now apply a precipitation or some similar test only a little more delicate than those we are already using and we get a positive reaction. Is our individual to be labelled as a syphilitic?

There is ever the dividing line between the theoretical and the practical. Theoretically this individual is tainted. He has responded to a delicate but accurate test, and in that sense he is a syphilitic. In that sense every member of the human family would be a syphilitic. But practically, clinically, judged by that much-abused standard of common sense, the individual is not a syphilitic and will never be the worse because of that remote taint.

The laws of heredity govern these questions. Nature tends to eliminate during the progress of generations all taints and contaminations, and the proof of it lies in the fact of the existence of the race in its present ruggedness and fitness.

Clinically this hypothetical individual is not syphilitic, and it were better if such a taint were never thought of, discussed or considered as carrying weight.

To return to the consideration of the Moro reaction, of what clinical value as a diagnostic aid can a test be that marks the overwhelming majority of the human family as tuberculous? Let it be granted, for the sake of the argument, that it and kindred tests have a laboratory value, a true scientific basis, and so are worthy of thought and further study. This and kindred studies promise much and should be pursued. Much will in the end come out of present indefiniteness and uncertainty that may be valuable; but to-day in the hands of the practitioner of medicine I deny that the Moro test for tuberculosis has any dependable clinical value whatsoever. The false value placed on it, however, is leading to the ever-threatening and apparently inevitable abuse; physicians turn to it as a short cut to diagnosis. The old classical clinical study is in danger of being discarded. Consideration of subjective and objective symptoms, variations in weight and temperature—these mainstays are in no little danger of being discarded for this laboratory method that saves trouble and is offered to the profession with such "cock-sure" assurance of diagnostic infallibility. I feel that it is one of the hurtful measures that has been foisted on the medical profession and that I would not be doing my duty did I not protest against it. Let others try it as I have done on a series of healthy individuals, instead of supinely accepting and depending on its misleading evidence. In my opinion, the reaction will then find its proper place—in the research laboratory. It will certainly play no part in the practical diagnosis of tuberculosis.

Willoughby Building.

## PROENCEPHALIC FETUS

C. GEORGE BULL, M.D.
ALAMEDA, CAL.

Recently I delivered a woman, seven months pregnant, of a five months' male fetus in which the brain protruded from the mouth. The brain was normal and connected with the spinal cord through a small slit between the palate bones. The cranium was empty, except for the dura mater and tentorium cerebelli. There was a large amount of liquor amnii. The falx cerebri was attached strongly to the gums of the upper jaw. The fetus was somewhat macerated, the cranial bones being loose. In all other respects the fetus was normal.

The mother stated that she felt the child's movements first about four and one-half months and for two weeks after; then they suddenly ceased.

The woman had had two children, one of whom died at birth after instrumental delivery; it was normally formed. The other child is alive and well.

There is no specific history; both parents are well and healthy; the father is 35 and the mother 29.

# *Therapeutics*

## LACTIC-ACID-PRODUCING BACILLI IN INTESTINAL INDIGESTION

The several methods of administering lactic-acid bacilli were described in The Journal last week. The value of this treatment in intestinal conditions will now be discussed.

Dr. J. Madison Taylor, of Philadelphia, in *Dietetics* (Philadelphia), January, 1909, records some clinical observations which he made twenty-six years ago during his neurologic services at the Howard *Hospital*. He describes the patients as "a large number of poor old bodies, mostly 'retired' servant girls, subsisting during their declining years on their little savings, and wretchedly enough, too. 'They complained uniformly of 'nervousness,' compounded of monotony, *loneliness*, *evaporated* hopes and shreds of divers bodily ailments. Their diet, of necessity, was scanty, consisting chiefly of 'bread and tea.' Actuated chiefly by considerations of dietetic economy, I urged them to buy buttermilk, which in those days was readily procurable at a cost of 5 cents a quart. (Now commercial 'buttermilk' is usually skim milk acidulated by a 'starter.') The satisfactory and uniform improvements following the use of this cheap food were matters of astonishment to myself and my assistants, no matter what other and profoundly scientific 'treatment' was instituted also." These patients so treated gained strength and vigor, improved mentally, their digestion improved, they slept well, and even the blood condition was improved. "These results were at that time attributed to the ready digestibility and sustaining powers of the milk proteids and to vaguely understood dietetic and laxative effects."

These observations of Taylor, although strictly empirical, nevertheless possess no inconsiderable significance. Later bacteriologic studies throw a clearer light on the direct cause of the usefulness of buttermilk.

A more recent experience is that which Charles Hunter Dunn, of Boston, related in the *Archives of Pediatrics*, April, 1907. Dunn adopts the classification of the gastroenteric diseases of infancy and childhood, followed in the department of pediatrics of the Harvard Medical School, viz.: infectious diarrhea, in which the parasite infects and lives on the tissues of the body, and intestinal indigestion of the fermentation type, also spoken of as fermental diarrhea, in which the pathologic process is caused by a saprophyte living on the intestinal contents. Clinically, "the former is characterized by persistent fever and the early appearance of the signs of ileocolitis, i. e., mucus and blood in the discharges. The latter is characterized by the absence or brief duration of fever and by the signs of excessive fermentation in the discharges, that is, a green color and foul odor, with signs of ileocolitis only after prolonged illness, if at all."

Dunn refers to the paper of Tissier, published in the *Annales de l'Instit. Pasteur*, xix, No. 5, in which the latter expresses the belief, based on careful studies of the intestinal flora in health and disease, that "in health the *Bacillus bifidus* is the predominating organism of the dejecta in overwhelming predominance," and that in disease this *Bacillus bifidus* disappears and a number of abnormal forms appear. Of these, the *Bacillus perfringens* is regarded by Tissier as the cause of that class of cases designated as fermental diarrhea. In the treatment of these cases Tissier uses pure cultures of the lactic-acid bacillus, "and under this treatment he notes a rapid transformation of the stools, subsidence of the symptoms and gain in weight."

Dunn selected buttermilk as a convenient vehicle for administering lactic-acid bacilli, first because it seemed probable that by thus combining medicine and food a larger number of the organisms could be introduced than by using small doses of bouillon cultures in addition to the food, and, second, because it seemed desirable to use a constant food in all cases, one which should be digestible and one which should not be likely to cause trouble on account of a possible intolerance for proteid or fat by the patient.

The buttermilk was prepared by first pasteurizing the milk and then inoculating it with a pure culture of lactic-acid bacilli, ripening it until the growth of the organism had produced the proper acidity and precipitation of the casein. The particular strain of the lactic-acid bacilli used was isolated by the bacteriologist associated in the work, who selected it on account of the delicate aroma it produces.

It has been the practice of many physicians who have used buttermilk in the treatment of gastrointestinal disease to pasteurize it, but by doing this they have carefully avoided deriving any benefit from the living lactic-acid bacilli, and it has been found clinically that patients who do well on such pasteurized buttermilk also do well on properly modified milk.

The unpasteurized buttermilk was used by Dunn in 35 cases which had resisted the usual treatment for fermental diarrhea, consisting of the administration of castor oil or calomel, then allowing no food except boiled water for twenty-four hours, and then a weak form of modified milk.

Of the 35 cases, 5 were of the irritative type, and the treatment failed; 2 cases were infectious, but probably of dysenteric origin, characterized by persistent fever and bloody-mucous stools. In these also the treatment failed. Of the remaining 28 cases, 23 were successful, 3 were partly successful, and in 2 the treatment failed.

In order to eliminate the possibility that the favorable results were due to the buttermilk and not to the living lactic-acid bacilli, to 14 of the resistant cases pasteurized buttermilk was given long enough to demonstrate a failure to improve, after which the pasteurization was omitted, and in every case immediate improvement followed.

Dunn concludes that the use of living lactic-acid bacilli is a harmless method of treatment, and that it may do good in cases of intestinal fermentation. It is an additional resource in a very difficult class of cases. It certainly has a logical scientific foundation, and may in time take a high place in the scale of efficiency.

### THE POSTPONEMENT OF SENILITY BY LACTIC ACID BACILLI

The intestinal canal contains a variety of bacteria which cause putrefaction and fermentation of the residue of the various articles of food contained therein. From the changes in the proteids there result, first, the normal products of proteolytic digestion and, second, if abnormal changes occur, there are formed indol, skatol, gas and many other toxic substances, the nature of which have not been definitely determined. When the carbohydrates undergo abnormal fermentation a greater volume of gas is usually produced than in proteid disintegration, and it is accompanied by the formation of butyric and other irritant acids.

Intestinal putrefaction gives rise to different symptoms in different classes of individuals. In infants and young children it is usually accompanied by gastrointestinal disturbances, such as vomiting and diarrhea, and, if these conditions persist, by malnutrition and a retardation of growth. In adults acute intestinal autointoxication generally gives rise to the group of symptoms commonly designated as biliousness, while the chronic form may cause anemia, neurasthenia, neuritis, cutaneous diseases, kidney irritation, arteriosclerosis and various other conditions, as has been pointed out by Dr. George M. MacKee, of New York, in several recent publications (*New York Jour. of Med.*, September, 1908; *Dietetic and Hygienic Gazette*, June, 1908).

Intestinal putrefaction of the proteolytic type is indicated by the presence of indican in the urine; when it is of saccharolytic type, by ethereal sulphates.

The absorption into the blood and the circulation through the body of the various products of putrefaction and abnormal fermentation give rise to increased growth of the interstitial connective tissue of glands, a morbid change commonly known as sclerosis, and to degeneration of the characteristic cells of the different glands and tissues of the body. The chronic interstitial sclerotic changes and parenchymatous degenerations are generally recognized as characteristics and accompaniments of senility or old age. Metchnikoff, of Paris, has elaborated and popularized this idea, and has urged that the coming on of senility may be postponed by preventing the putrefaction and fermentation in the intestine, and that this may be accomplished by the constant use of milk soured by and containing live lactic-acid bacilli. He contends that other injurious bacterial changes in the alimentary canal can be avoided by encouraging the growth therein of the harmless lactic-acid bacilli, which will prevent the development of the injurious bacteria. As presumptive truth of the inherent probability of this proposition he cites the long life of the Bulgarians who make sour milk a large part of their dietary.

The Bulgarian fermented sour milk, known as yahourth, has been studied with reference to the bacteria contained in it, one of which, called the bacillus of Massol, produces much larger amounts of lactic acid than the other so-called lactic-acid bacilli. It is proposed by cultivating this in milk, which has been sterilized, to produce a sour milk containing a pure strain of active lactic-acid bacilli, and which will at the same time be free from any injurious bacteria. It is believed that the constant use of this as an article of food will prevent the growth in the alimentary canal of the bacteria which cause putrefaction and abnormal fermentations, and that consequently there will result no toxic substances to be absorbed. Thus the tissues and organs of the body will be relieved of the destructive irritations caused by the absorption of these toxic products of bacterial growth, and as a result of this the changes incident to old age will be long postponed.

While, as has been pointed out, the multiplication of the bacteria of putrefaction and of abnormal fermentation in the intestines is accompanied, in most cases, in children, by diarrhea, in adults, on the other hand, constipation is a common result. Gaillard, writing in the *Journal de Médecine de Paris*, Aug. 8, 1908, noted in the *Medical Record*, Oct. 3, 1908, expresses the belief that constipation is closely associated with autointoxication, particularly that resulting from the decomposition of albuminoids. The action of the bacteria which act on vegetable compounds, and which produce antiseptic compounds in the form of organic acids, such as lactic and acetic acids, is antagonistic to this autointoxication.

Gaillard begins the treatment "by placing the patient on a diet that includes vegetable gruels made with milk, potatoes, eggs and small quantities of meat. He thus encourages the proliferation of the amylolytic microbes, which are useful, at the expense of the proteolytic organisms, which are harmful. The patient is also given a bouillon culture of lactic-acid bacteria, which by its action produces antisepsis. As soon as the digestion has been regulated in this way defecation occurs with regularity without other treatment." He reports several patients treated in this manner with favorable result.

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**Diagnostic Importance of Loss of Corneal Reflex.**—In the *Neurologisches Centralblatt*, 1910, xvi, 66, A. Saenger relates a number of instances of various intracranial lesions causing the loss of the corneal reflex. This is liable to occur not only with processes in the brain, especially with tumors in the posterior spinal fossa, causing compression, in which case the loss of the reflex is on the same side, but also with processes that do not compress adjacent organs; *in this case the loss* of the reflex is contralateral.

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SATURDAY, MARCH 19, 1910

## A DEPARTMENT OF HEALTH

The introduction into the Senate by Mr. Owen of a bill proposing the establishment of a Department of Health, which we printed three weeks ago[1] and the correspondence between Senator Owen and Dr. Charles A. L. Reed, printed on another page of this issue[2] seem to indicate that a movement for a Department, rather than a Bureau of Health, is taking shape in Congress; at least the cause has a staunch champion in the Senate. This is gratifying, since it is known that Senator Owen's bill was not prompted either by the American Medical Association or by the great lay movement represented by the Committee of One Hundred—the two organizations that have come to be recognized as the natural sponsors of all manifestoes in behalf of advanced health legislation. The measure is therefore to be accepted as additional evidence of popular interest in a movement of deep and vital concern to the people.

Senator Owen comes squarely to the old issue of a department versus a bureau and does so in language that leaves no doubt as to his attitude in favor of a department with a secretary in the Cabinet. His position is sustained by reasons that would seem sufficient. The importance and the dignity of the task of conserving human health as a means of preserving human life, efficiency and happiness, are considerations which enter into his argument for a department. As Senator Owen recognizes in his letter, we already have a Bureau of Public Health. The proposal to create another would be in a sense to propose a duplication of governmental machinery. If health agencies that exist in other departments are to be transferred and made parts of an existing bureau, they must become subordinate divisions of that bureau. While such a proposition might be considered, it would naturally arouse a storm of protest from the bureaus themselves as well as from the departments affected. The natural antagonism thus aroused would probably result in the defeat of the proposal. What is needed is to increase and not to lessen the prestige, influence, power and efficiency of every bureau, division, institution or agency that has to do with the conservation of health.

That this can be more satisfactorily done by a department seems evident from Dr. Reed's summary of reasons for the creation of a department—namely, that sanitary science has demonstrated its efficiency and that the people are in need of its benefits; that a Bureau of Health now exists; and that the established precedent demands its advancement to a department. While no bill has as yet been introduced in the House, the Committee on Interstate and Foreign Commerce can take up the question, following the suggestions contained in the President's message regarding advanced health legislation. The Committee on Medical Legislation of the American Medical Association has already applied to Mr. Mann, Chairman of the House Committee, for a hearing on the general question, as well as on specific points enumerated in Dr. Reed's letters to Senator Owen and Mr. Mann.

Mr. Mann's championship of the pure Food and Drugs Act and his identification with other progressive public health legislation lead to the hope that he will be equally zealous in the behalf of the department idea. There is a growing demand on the part of the press, both lay and professional, for greater activity on the part of the national government in the conservation of the public health. It is also known that many senators and representatives are already favorably inclined to the idea of a department. It seems, therefore, that the time is opportune for every citizen interested in the welfare of the people not only to echo but also to act in accordance with the sentiment of Senator Owen, when he says: "I believe in *conservation*, and first of all in the conservation of human life."

## THE CIRCULATORY CHANGES IN CHRONIC NEPHRITIS

Chronic arterial hypertension has long been recognized as one of the earliest and most important signs of chronic interstitial nephritis, and, together with hypertrophy of the heart and arteriosclerosis, forms a characteristic triad of signs. The several hypotheses which have been advanced to explain these circulatory changes may be classed as either mechanical or chemical.

The purely mechanical explanation, first advanced by Traube, and elaborated into its present widely accepted form by Cohnheim, assumes that the increased blood pressure is an attempt on the part of the heart and arteries to maintain a normal flow of blood through kidneys whose capillary bed has been narrowed to a greater or less degree by the interstitial cirrhosis. The cirrhotic kidney, according to this hypothesis, forms an obstacle to the normal flow of blood, a partial barrier which can be overcome only by a more powerful circulatory pressure. This very plausible explanation which refers the characteristic triad of circulatory signs to a common cause has, however, met with but little support from the experimental studies of the past few years.

Alwens[1] has recently attempted to verify the Traube-Cohnheim mechanical theory by subjecting the kidneys to an external pressure sufficient partially to obstruct the flow of blood. He used for this purpose oncometers, measuring the pressure applied by a manometer and the rate of flow in the renal veins. Only an insignificant rise of the general blood pressure could be demonstrated even when the external pressure on the kidneys was sufficient completely to stop the renal circulation. It is well known that ligation of both renal arteries causes only a transient rise in blood pressure, and Pässler and Heineke,[2] who excised increasing quantities of kidney tissue in dogs, could not convince themselves that the heightened arterial tension and heart hypertrophy which they were able to produce were solely attributable to loss of kidney capillaries and not due to toxins remaining unexcreted in the blood.

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[1] The Journal A. M. A., Feb. 26, 1910, liv, 725.
[2] Correspondence Department, p. 9[illegible].

[1] Deutsch. Arch. f. klin. Med., xcviii, 137.

Finally, the mechanical theory has been severely shaken by Jores,[3] who found in a carefully studied series of autopsies that the degree of heart hypertrophy in chronic nephritis could not be referred to the obliteration of the capillaries of the kidney, as Loeb and others have claimed. Indeed, in the red granular kidney, which is almost constantly associated with arterial hypertension and heart hypertrophy, Jores found less destruction of glomeruli than in the secondarily contracted kidney of parenchymatous nephritis, a form which not uncommonly fails to produce marked circulatory changes. The very extensive destruction of the glomeruli in amyloid kidneys was found to occasion *no* heart hypertrophy whatsoever.

The alternative hypothesis, which attributes the cardiac and vascular phenomena of chronic nephritis to chemical excitation of the walls of the vessels by pathologic constituents of the blood, has grown constantly in favor. The reports of Schur and Wiesel[4] are of special interest. Using the frog-pupil reaction of Ehrmann, as well as chemical tests for adrenalin, they assert that they have demonstrated the presence of adrenalin in the blood of nephritics, normal controls failing to yield the reactions. They further describe as very constant the presence of hypertrophic changes in the medulla of the adrenals of chronic nephritics. From their observations they advance the theory that the arterial hypertension of chronic nephritis is due to an excessive adrenalin formation (hyperadrenalism), the adrenal medulla being stimulated to unwonted activity in some unknown way as the result of the pathologic alterations of the kidneys.

Aschoff and Cohn[5] and Goldschmidt[6] have failed to confirm the medullary hypertrophy described by Schur and Wiesel, and it may be further objected that, in their study of adrenalin in the blood, the tests used were not specific for adrenalin.

The presence in the blood of dogs with experimentally produced nephritis of a nephrotoxic substance, which when injected into normal dogs will cause the appearance of proteins and casts in the urine, seems conclusively proved by Lindermann, Pearce[7] and others. The nature of this toxin is unknown.

From this brief review it is obvious that we are as yet far from a satisfactory explanation of the circulatory changes in chronic nephritis. It is perhaps safe to assert, however, that the current trend is toward the chemical as opposed to the mechanical explanation of the phenomena, a view in agreement with the assumption of Barker and Hanes[8] regarding the eye signs observed in nephritics.

## THE APPLICATION OF IMMUNOLOGY TO BIOLOGIC PROBLEMS

Because nearly all the developments that have so far been made in the reactions of immunity have come from the laboratories of the pathologists and bacteriologists, the line of application has been chiefly toward clinical pathology, diagnosis and therapeutics, and we have largely lost sight of the fact that these reactions are fundamentally biologic phenomena. Our progress in serum pathology has undoubtedly been delayed by the tardiness of the physiologists and the biologists to enter this field, for with their different points of view they could certainly present new ideas to the pathologists concerning many of the fundamental principles of the reactions, while at the same time they would make much progress in their own problems by means of this new method of attack. The immunity reactions permit of the detection of differences in chemical structure which can be demonstrated in no other way, and by them specific chemical differences are brought out which distinguish not only between different species but also between different breeds and strains, and even between different individuals of the same strain. For the large problems of heredity and general biology how much more significant are these specific differences in the chemical constitution of the essential tissue elements than are such relatively superficial features as shape of head, limb and body, number and arrangement of scales and feathers, and distribution of various pigments in the dermal appendages, on which zoologists and biologists have based their studies in the past.

An illustration of the way in which problems of classification and of heredity may be attacked by means of the reactions of immunity is furnished by a recent investigation on "The Detection and Inheritance of Biochemical Structures," by v. Dungern and Hirschfeld.[1] These authors have undertaken to learn in what way these biochemical characteristics of protoplasm which can be demonstrated by antibody reactions are inherited, using for their investigations the agglutinins for red corpuscles of dogs. As is generally known, the rule in the immunity reactions is that the more closely related are the animals which furnish respectively the antibody and the antigen the less vigorous will be the antibody formation, but in spite of this fact it is nevertheless possible to secure antibody formation when the antigen is derived from closely related species, and even from different individuals of the same breed. Rabbits immunized with the blood of hares develop antibodies reacting with the blood of hares, but not with rabbit blood; Ehrlich and Morgenroth by injecting the blood of one goat into another goat caused the development of antibodies which would cause hemolysis of goat corpuscles, although not hemolyzing the corpuscles of the immunized goat; and on injecting guinea-pigs with extracts of guinea-pig testicles their serum becomes toxic for guinea-pig spermatozoa.

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[2] Verhandl. d. deutsch. path. Gesellsch., 1905, ix, 99.
[3] Verhandl. d. deutsch. path. Gesellsch., 1908, xii, 187.
[4] Verhandl. d. deutsch. path. Gesellsch., 1907, xi, 175.
[5] Verhandl. d. deutsch. path. Gesellsch., 1908, xii, 131.
[6] Deutsch. Arch. f. klin. Med., xcix, 186.
[7] Jour. Med. Research, 1908, xix, 2.
[8] Am. Jour. Med Sc., October, 1909.
[1] Ztschr. f. Immunitätsforschung, 1910, iv, 531.

By immunizing a terrier and a shepherd-bitch with each other's blood, v. Dungern and Hirschfeld obtained from each animal a serum which would agglutinate strongly the corpuscles of the other, and also to greater or less degree the corpuscles of some other breeds of dogs. For example, the serum of the immunized terrier agglutinated the corpuscles of five out of ten dogs examined, including the corpuscles of a bull-dog and of some other terriers, but not the corpuscles of a St. Bernard, of a shepherd-dog, or of some other breeds. The serum of the shepherd-bitch showed similar peculiarities, agglutinating the corpuscles of but one of ten dogs of various breeds. Apparently the specificity observed in these reactions does not depend on breed or species, but on properties of individuals, since agglutination was sometimes obtained with corpuscles from dogs of the same breed as the immunized animal. By the agglutination reaction, therefore, one can only distinguish between dogs whose blood contains certain specific substances and those whose blood does not contain them, and the line will not correspond at all to the physical relationships of the animals. The two dogs were mated and four pups were obtained, whose blood reactions were tested against the blood of the parents. The blood serum of the father was found to agglutinate the corpuscles of two of the four pups, while the mother's serum agglutinated the corpuscles of one of these two, but of none of the other three pups. This last pup therefore differed from the rest of the litter in regard to the chemical composition of its corpuscles, which evidently contained substances corresponding to substances present in the corpuscles of both the father and mother; one of the other pups had corpuscles resembling those of the mother alone, since they react only with the serum of the father, while the corpuscles of the two remaining pups are probably different from the corpuscles of both parents, since they react with the serum of neither. By other immunization experiments these conclusions were further established.

From these preliminary observations it seems demonstrated that the chemical structure of the red cells of different dogs is not the same, and this is the case even when there are no gross anatomic differences between the animals. Also it is shown that these biochemical properties are inherited in various ways, which will need to be established by extensive experiments in order that the underlying laws of the inheritance of chemical characteristics may be successfully formulated. For example, the pairing of animals with corpuscles having similar biochemical structure must be compared as to its effect on the offspring with the results of mating animals with unlike corpuscles, and these processes will need to be followed out for generations. Such experiments open an entirely new and fundamentally important field of general biology, the exploration of which undoubtedly will add fully as much to our understanding of the immunity reactions as they will contribute to biologic research.

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## POLYPHARMACY AND THE PHARMACOPEIA

The useless combination of a large number of drugs in a single preparation has been justly condemned. This practice was formerly much more in vogue among physicians than at present, but it is still recognized officially in the complex mixtures of the Pharmacopeia. The Council on Pharmacy and Chemistry has adopted a rule against the acceptance of mixtures containing an excessive number of ingredients. In the application of this rule the Council is likely to find itself greatly embarrassed by the fact that the Pharmacopeia contains many preparations in which the number of ingredients reaches a degree properly called excessive, nearly as great as in many of the objectionable proprietary mixtures. Thus liquor antisepticus has eight ingredients, mistura glycyrrhizæ composita seven (calling tinctura opii camphorata one, although it contains five ingredients), compound cathartic pills seven, vegetable cathartic pills nine, and compound syrup of hypophosphites nine. The National Formulary also contains a number of preparations which are even worse examples of objectionable polypharmacy. What excuse is there for placing in an official standard such admittedly unscientific mixtures? Probably it is true that some of these preparations were introduced with the view of providing substitutes for nostrums which had become popular through extensive advertising. If so, it is all the more important that they should be eliminated. These proprietaries maintained their hold on the medical profession largely through the mystifying influence of the unusual number of ingredients in the mixtures. The manufacturer, aiming to produce a preparation that will impress and mystify the physician, and which cannot readily be imitated, introduces small and essentially inefficient quantities of several ingredients. The physician, seeing that the medicine contains among its ingredients some substance which he knows has a remedial action, naturally supposes that the other ingredients, with which he is less familiar, enhance the value of the mixture. Hence he often prescribes it without stopping to think that he is giving an insufficient dose of the remedy he desires and without realizing that a simple solution of one, two, or possibly three ingredients in effective doses would be better. Such mixtures should be condemned rather than sanctioned by admission into our official standards, and special care should be taken that future admissions to the Pharmacopeia—and, for that matter, to the National Formulary—do not embarrass the progress of pharmaceutical reform.

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## *Medical News*

### ARKANSAS

**Hospital Sold.**—The directors of the Physicians and Surgeons College and Hospital, Little Rock, have sold the hospital connected with the institution to Dr. E. Meek for $48,800.

**State Society Meeting.**—The Arkansas State Medical Society will hold its annual convention in Little Rock, May 3-6. Dr. Morgan Smith, Little Rock, is secretary of the organization.

**Personal.**—Dr. Ernest G. Epler, Fort Smith, has returned after a year abroad.——Dr. Thomas E. Holland, Hot Springs, announces that he has associated with him in business his son, Dr. Estill D. Holland.——The residence of Dr. William E. Hughes, Pocahontas, with almost all its contents, was destroyed by fire, February 17.——Dr. Daniel C. Carroll, Tillar, is reported to be seriously ill in Eureka Springs.

**Saline County Physicians Elect.**—Saline County Medical Society, at its annual meeting in Benton, February 28, elected the following officers: President, Dr. Daniel N. Fisher, Benton; vice-president, Dr. Warren Kelley, Benton; secretary-treasurer, Dr. Charles Prickett, Traskwood; delegate to the state society, Dr. J. M. Phillips, Benton, and alternate, Dr. John W. Melton, Alum. The county judge, on request of the society, appointed Dr. Daniel N. Fisher, president, and Drs. J. M. Phillips and Warren Kelley members of the board of health of Saline county, all of Benton.

### CALIFORNIA

**Antituberculosis Society Kirmess.**—The antituberculosis society kirmess, held the first week in February for the benefit of the Alameda Society for the Study and Prevention of Tuberculosis, netted more than $5,000 for the cause.

**Society Meeting.**—At the annual meeting of Napa County Medical Society, held in Napa, Dr. Frank C. Newton, St. Helena, was elected president; Dr. Edwin Z. Hennessey, Napa, vice-president, and Dr. Otto T. Schulze, Napa, secretary.

**News About Hospitals.**—Mrs. Russell Sage has given $1,000 to the Pasadena Hospital.——A new isolation hospital is to be built and maintained for Stanford University.——The board of supervisors of San Francisco have decided that the California Women's Hospital is unfit for housing the sick and must be destroyed.——The directors of Mount Zion Hospital, San Francisco, have purchased a site for the institution for $70,000, and a modern hospital of reenforced concrete will be erected immediately. Mr. I. W. Hellman has donated $100,000 to the institution in memory of his late wife.

**Personal.**—Dr. J. Gordon Mackay, Truckee, was elected president of the Nevada, Placer and Eldorado Counties Medical Association, at its meeting in Auburn.——Dr. August C. Bothe has been appointed city chemist of San Francisco.——Dr. Arthur A. O'Neill, chief surgeon of the Isolation Hospital, San Francisco, has resigned.——Drs. George M. Terrell, John W. Callnon and O. E. Skoonberg have been appointed assistant surgeons of the San Francisco Emergency Hospital Service.——Dr. Louis D. Mead has been appointed visiting physician of the San Francisco Isolation Hospital.——The board of health of San Francisco has declared the office of chief sanitary officer vacant, to become effective April 1 Dr. William C. Hassler at present holds the position.——A session of the Los Angeles County Medical Society was recently devoted to the payment of a tribute to Dr. Elizabeth A. Follansbee, Los Angeles.

### COLORADO

**Personal.**—Dr. and Mrs. William C. Mitchell, Denver, are in California for a holiday trip.——Dr. George H. Stover, Denver, expects to leave this month for Honolulu to make a study of leprosy.

**Hospital Opened.**—The Childrens' Hospital Association has opened a hospital at 2221 Downing street, Denver, with accommodation for 25 patients. Provision has been made for several free beds.

**Bequest for Tuberculosis Sufferers.**—By the will of the late Ascher Silberstein of Texas, the National Jewish Hospital for Consumptives, Denver, and the Jewish Consumptive Relief Society, Denver, are each bequeathed $2,500.

**New Sanatorium.**—The Associated Danes, the amalgamated Danish societies of the United States, have perfected plans for a large sanatorium to be erected in or near Denver. The Danish Sanatorium at present in operation at Brush with a capacity for 100 patients, is inadequate to the demands.

**Tuberculosis Camp Site Donated.**—Mr. George J. Kindel, Denver, has donated five acres of land in Jefferson county for a tuberculosis camp to be opened in May under the auspices of the Colorado Society for the Prevention and Control of Tuberculosis. The dispensary will be under the charge of Dr. Sherman G. Bonney, Denver.

**New Medical Society Organized.**—Physicians of Routt county met at Steamboat Springs, February 22, and perfected a county organization, electing Dr. J. H. Cole, Yampa, president; Dr. Robert E. Jones, Steamboat Springs, vice-president; Dr. Horace C. Dodge, Steamboat Springs, secretary, and Dr. Loren G. Blackmer, treasurer.

### ILLINOIS

**Intern Examination.**—The examination for internships in the Cook County Hospital and Cook County Institutions, Dunning, was taken by 140 men and women, March 9-11.

**Verdict Against Doctors.**—The case of Wilhelmina Hanson versus Dr. Fletcher L. Crocker and Dr. Barratt, Pontiac, is said to have been decided in favor of the plaintiff in the sum of $6,000.

**Hospital Staff Election.**—At the annual meeting of the medical staff of St. Anthony's Hospital, Rock Island, March 4, Dr. Joseph P. Comegys was elected president; Dr. Frank H. First, vice-president, and Dr. Emily Wright, secretary-treasurer.

**Contract Practice Discussed.**—At the banquet given by the Winnebago County Medical Society, at its meeting in Rockford, Dr. Daniel R. Connell, Beloit, Wis., president of Rock County Medical Society, was the guest of honor. The subject of contract practice was fully discussed.

**News About Hospitals.**—It is announced that Harry M. Fisher, president of the Maimonides Kosher Hospital Association, Chicago, will erect a building for the institution to cost about $150,000.——It has been decided to increase the capacity of St. Margaret's Hospital, Spring Valley, by the erection of an additional wing. This will increase the capacity of the institution more than 65 per cent.——Sarah A. Hartwell, Elgin, has given $4,000 to the Elgin Woman's Club to maintain a free bed in Sherman Hospital.

**Personal.**—Dr. and Mrs. Vaclav H. Podstata, Elgin, and Dr. and Mrs. Thomas J. Watkins, Chicago, sailed for Europe March 12.——Dr. Samuel A. and Samuel L. Oren, Lewistown, have been appointed local surgeons of the Burlington System.——Drs. Charles W. Hall and John H. Oliver have been appointed local surgeons at Kewanee for the Burlington System.——Drs. Antonio Lagorio and Camillo Volini, Chicago, previously decorated for services to their countrymen, have been advanced from the rank of knights to officers of the Order of the Crown of Italy.

### KENTUCKY

**Personal.**—The State Board of Control has appointed Dr. Lydia Lloyd Poage, Paris, as an assistant physician at the Eastern Kentucky Hospital for the Insane, Lexington.——Dr. John C. Vaught has been elected secretary of the Winchester Board of Health.——Drs. Carey E. Wamsley, F. A. Clark and W. A. Krieger have been appointed district physicians of Newport.

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11, and now awaits the governor's signature. The bill provides for the creation of a bipartisan commission, composed of two democrats and two republicans, to be appointed at once to prepare plans for the erection of a new city hospital. The citizens will be called on November 1 to vote a bond issue of $1,000,000 to provide for its erection.——The Jefferson County Medical Society has appointed a hospital committee, composed of Drs. Henry E. Tuley, Ap Morgan Vance, Leon L. Solomon, James W. Guest, and Bernard Asman, which will urge on the mayor the appointment of Dr. Ap Morgan Vance as the medical member of the commission.

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**Reunions.**—Three generations of physicians graduated at the University of Pennsylvania were represented at the meeting of the Northwestern Alumni Association, St. Paul, March 3. ——Dr. Archa E. Wilcox, Minneapolis, was elected president of the organization and Dr. Arthur S. Hamilton, Minneapolis, secretary.——The Minnesota Wiener Medical Verein held its annual meeting in Minneapolis, February 5, and elected Dr. Charles D. Freeman, president; Dr. Paul B. Cook, vice-president, and Dr. Louis A. Nelson, secretary, all of St. Paul.

**Medical Society Meetings.**—At the annual business meeting of the Ramsey County Medical Society, held in St. Paul, January 31, Dr. Warren A. Dennis was elected president; Dr. James S. Gilfillan, vice-president; Dr. Frederick Leavitt, secretary-treasurer, and Dr. Alva F. Whitman, necrologist. The society has a membership of 200, and maintains a reference library of 5,000 volumes, and a working laboratory for its members.——At the annual meeting of Rice County Medical Society, held in Faribault, the following officers were elected: Dr. Arthur C. Rogers, Faribault, president; Drs. Warren Wilson, Northfield, and P. Albert Smith, Faribault, vice-presidents; Dr. Frederick U. Davis, Faribault, secretary-treasurer, and Dr. Frederick R. Huxley, Faribault, censor.——Clay-Becker County Medical Society held its annual meeting, January 31, at Moorhead and elected the following officers: President, Dr. Olaf J. Hagen, Moorhead; vice-president, Dr. Lew M. Lowe, Glyndon, and secretary-treasurer, Dr. Edgar R. Barston, Frazee.

## NEW YORK

**Cost of Food Affects State Hospitals.**—The high price of certain foodstuffs has led the Commission in Lunacy to reduce the amounts of hams and smoked meats to about one-half the usual quantities and to substitute beef, milk and eggs to furnish an equivalent amount of nourishment.

**New Legislation.**—A bill has been introduced into the legislature which places cold storage warehouses under the supervision of the State Board of Health. All food must be stamped conspicuously with the date when storage began, and shall not be kept longer than six months except on special permission of the board, to which quarterly reports must be made.——Another bill includes within the definition of adulterated food, slaughtered game, animals, poultry or fowl, unless the carcass has been divested of its entire digestive tract within twelve hours after its slaughter. Any such carcass found in any refrigerator, ice chest, cooler, storage, apartment or market is to be presumed to have been slaughtered for a longer period than twelve hours.——Another bill requires the New York City Health Department during the summer months to operate hospital boats for the care of sick mothers and children.

**A Tuberculosis Conference.**—The New York State Charities Aid Association held a conference at Albany on March 18 and 19. This conference celebrates the beginning of a new period of constructive work by the state and local committees on the prevention of tuberculosis. The conference will be followed by sermons throughout the state on Tuberculosis Sunday, April 24, on the text "No uncared-for tuberculosis in 1915." They will emphasize the demand for a county hospital for every county and at least one visiting nurse for every city and village, a free dispensary for every city or village having a population of over 5,000, the reporting of every living case to the health authorities, and the adequate treatment of every case either at home or in a hospital. If these plans are carried out there will be in the upstate portion of New York by 1915 at least 1,500 state beds for tuberculosis, 61 county hospitals, 22 city hospitals, 85 dispensaries, and 150 visiting nurses for the care of tuberculosis cases.

**State to Make War on Disease.**—Called together by Dr. Eugene H. Porter, State Commissioner of Health, nearly fifty experts of the State Department of Health met in Albany March 8 to plan a definite and detailed movement throughout the state for the suppression of communicable and preventable diseases. Dr. Porter stated that they were about to district the state and to appoint competent physicians to act as sanitary inspectors over such districts under the authority of the State Department of Health. He outlined legislation which would link the local health officer through the sanitary supervisor with the central health department at Albany. Dr. William A. Howe, Phelps, detailed the method of an investigation by the sanitary supervisor of an outbreak of typhoid fever and what he could do to lessen the excessive death rate from diphtheria, scarlet fever, measles, whooping cough and tuberculosis. Meetings will be held throughout the state and everything possible will be done to put the work on sanitation on a higher plane. This is the first time that a state has entered on such a thorough-going campaign against disease.

## NEW JERSEY

**Antituberculosis Society Organized.**—A branch of the New Jersey Association for the Prevention and Relief of Tuberculosis has been organized in Moorestown with Dr. Nathan Thorne, president; Dr. Joseph Stokes, vice-president, and Dr. Frank G. Stroud, secretary.

**Surgical Dressing Maker Dies.**—Robert Wood Johnson, New Brunswick, president of Messrs. Johnson and Johnson, makers of surgical dressings and organizer of the firm of Seabury and Johnson, died at his home in New Brunswick, February 7, from acute nephritis, aged 65.

**Personal.**—Dr. Thomas J. Smith, Bridgeton, sustained a fracture of the nose in a runaway accident recently.——Dr. Paul E. Kuhl, Trenton, has been secured to care for the diphtheria cases at the New Jersey State Epileptic Village, Skillman.——In the case of Dr. Herman A. Glatzmayer, Newark, sentenced to imprisonment for five years, and fined $1,000 for malpractice, the verdict was set aside by the supreme court, March 7. Reversal was based on exclusion, at the trial, of questions put on cross-examination, concerning alleged acts injurious to the case of the defendant.

**Osteopaths Recognized.**—At a meeting of the house, March 9, the Ramsey Medical Bill was passed by a vote of 44 to 10. Under this bill, there is to be added to the State Board of Medical Examiners, now composed of nine members—five regular physicians, three homeopaths, and one eclectic—a tenth member who shall be an osteopath. Osteopathy is defined in the bill as: "a system of therapeutics, which seeks to secure normal adjustment of the anatomic structures through a process of scientific manipulations, recognizing as its proper heritage the use of air, water, light, heat, proper food, exercise or other physiologic measures." The bill prescribes the qualifications of an osteopath who may be licensed and provides: "the license granted under this section shall not authorize the holder thereof to use, prescribe, administer any drug or medicine, serums, antitoxin or vaccine, practice surgery, attend any contagious or infectious disease, or sign any birth or death certificate, and this together with the fact that it is issued without examination, shall be so stated in the said license." The advocates of osteopathy, it is said, are dissatisfied with the measure and their supporters voted in the negative.

## PENNSYLVANIA

**Personal.**—Dr. Katharine W. Ulrich, Chester, a member of the staff of Chester Hospital, is reported to be ill with pneumonia.——The local board of health of Chambersburg has reorganized by reelecting Dr. Johnston McLanahan, president, and Dr. Harry M. Miley, secretary.

**Railroad Relief Fund Report.**—The Lehigh Valley Railroad announces that $85,689.30 was paid from the relief fund in the year 1909 for the benefit of the company's employees, leaving a balance at the end of the year of $28,099.91. In the 32 years of this fund's existence, the contributions have amounted to $1,485,973.02. Of this, the employees have paid half and the company half.

### Philadelphia

**National Meeting on Alcohol and Drugs.**—The American Association for the Study of Alcohol and Other Drug Narcotics will meet in Philadelphia, April 6 and 7. Arrangements for the sessions are in charge of Dr. Alfred Gordon, 1430 Pine street.

**Personal.**—Dr. Jacob Solis Cohen was tendered a testimonial dinner by the section on laryngology of the College of Physicians and his former and present assistants, March 15, in honor of his having completed half a century of active practice.——Dr. S. Hamill Horne sailed from San Francisco, March 8, on a tour around the world.——Dr. Ernest F. Apeldorn was thrown from a wagon, March 7, and sustained a fracture of the hand and concussion of the brain.——Dr. Gennaro Spagano was exonerated by Common Pleas Court No. 5, February 18, in a suit brought against him for alleged malpractice.

## TENNESSEE

**New Superintendent for State Asylum.**—At a meeting of the trustees of the Tennessee Central Hospital for the Insane, Nashville, March 4, Dr. Albert E. Douglas, for nine years assistant superintendent, was appointed to fill the vacancy in the superintendency of the institution, caused by the death of Dr. John A. Beauchamp.

**Hospital News.**—St. Joseph Hospital, Memphis, during the twenty years of its existence, has ministered to 39,656 sick people, of whom 22,228 were charity patients. Dr. Benjamin F. Turner is president of the staff of the hospital.——A branch

11, and now awaits the governor's signature. The bill provides for the creation of a bipartisan commission, composed of two democrats and two republicans, to be appointed at once to prepare plans for the erection of a new city hospital. The citizens will be called on November 1 to vote a bond issue of $1,000,000 to provide for its erection.——The Jefferson County Medical Society has appointed a hospital committee, composed of Drs. Henry E. Tuley, Ap Morgan Vance, Leon L. Solomon, James W. Guest, and Bernard Asman, which will urge on the mayor the appointment of Dr. Ap Morgan Vance as the medical member of the commission.

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## FOREIGN

**Recent English Deaths.**—Among recent deaths in England are those of Henry John Manning, M.R.C.S., England, 1866; honorary secretary-treasurer of the Southern Branch of the British Medical Association, and superintendent and licensee of Lavestock House Asylum, Salisbury, on February 20, after a long and painful illness, aged 74; of John William Taylor, F.R.C.S., England, 1877; professor of gynecology in the University of Birmingham, and formerly chief assistant to Mr. Lawson Tait, who delivered the Engleby Lectures in 1898, was president of the British Gynecological Society in 1904, and died February 26 from chronic heart disease, aged 58; and of Surgeon-Major-General George Landford Hinde, C. B., who entered the Royal Army, Medical Corps, in 1855, and retired in 1892 after having served in the Crimean and first Boer wars, and with the Soudan expedition.

**Professor Jonnesco at Home.**—The following item appeared in the *Frankfurter Zeitung*, Feb. 25, 1910: "A MEDICAL QUARREL IN BUCHAREST.—The following letter has reached us from Bucharest: Sunday evening Prof. Thomas Jonnesco, dean of the medical faculty at the university of Bucharest, returned from a long foreign tour. He was met at the station by almost all the physicians of the city and the medical students who, together with a large crowd of people, had gathered to greet the clinician. Prof. Thomas Jonnesco had visited England and America on the invitation of the English and American universities to demonstrate his new method of anesthesia by injection of a stovain-strychnin mixture into the spinal canal (a method recently described in the *Frankfurter Zeitung*). The operations of Professor Jonnesco which were everywhere well received and very extensively described by all the English and American journals, have not been allowed to rest by a number of envious rivals. A bitter strife has developed between the adherents of the dean and some opponents, not, however, regarding the value of the method itself, but these physicians who are, however, in the minority, claimed that in his demonstrations of his method as carried out in foreign countries, Professor Jonnesco had entered the field of quackery and had brought disgrace on the entire Roumanian nation. In large placards and circulars it was demanded that Professor Jonnesco resign his place as dean and as member of the medical faculty and even the government was incited against the scientist. Luckily, however, these malicious attacks have had little effect for it was soon recognized that their real aim was directed against Thomas Jonnesco, not as a scientist, but as a brother of the former minister of finance, Take Jonnesco, with the purpose of injuring the latter who is the present leader of the conservative democratic party."

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, March 5, 1910.

### The Beit Fellowships for Medical Research

The munificent gift of a million dollars for the foundation of fellowships for medical research by the Beit brothers was described in a recent letter (THE JOURNAL, Jan. 15, 1910, p. 217). The following fellows have been appointed: 1. George Harold Drew, who has made researches on the parasitic and other diseases of fish, the reproduction of laminaria, and marine bacteriology. He is authorized to make researches on the zoologic distribution of cancer, and a systematic experimental study on the mode of origin of neoplasms. These researches will be carried on at the Imperial Cancer Research Laboratories, London; the zoologic station, Naples; the marine biologic station, Plymouth; and the zoologic station, Roscoff, France. 2. Frederick W. Edridge-Green, a well-known authority on color vision, and the inventor of the color-perception spectrometer. He is authorized to investigate various problems in connection with vision and color vision especially in relation to the correct reading of signals on land and sea. 3. Edward Hindle, instructor in parasitology, University of Chicago, who is authorized to make researches into the morphology and treatment of protozoic blood parasites, especially *Spirochæta duttoni* and trypanosomiasis, at the London School of Tropical Medicine and in Uganda. 4. Thomas Lewis, physician to out-patients, City of London Hospital, the author of numerous papers on a new method of investigating the heart; is authorized to make researches on the mechanism of irregularities of the heart. 5. G. C. McKay Mathison, a writer on the estimation of phosphorus and the output of organic phosphates in the urine, and the nervous control of respiration, is authorized to make researches on the nervous control of respiration, the effect on respiration of changes in the chemical composition of the blood, and the mechanism of biliary secretion and its general effect in digestive processes. 6. Otto May, physician to out-patients, Evelina Hospital, London, who is authorized to make clinical and experimental researches on lesions of peripheral nerves. 7. Edward Mellanby, demonstrator of physiology, St. Thomas' Hospital, who is authorized to make researches on the mode of action of caffein, theobromin and allied substances on the muscular and nervous systems. 8. Sydney Russ, demonstrator in physics at the Victoria University, Manchester, who is authorized to make researches on the association of radioactivity with cancer. 9. Ida Smedley, assistant lecturer on chemistry, Victoria University, who is authorized to make researches on the processes involved in the formation of fat in the organism. It is evident that the researchers have been well selected, and that their subjects are of the first importance.

### The Responsibility of Hospitals

A curious case has been decided in the Glasgow sheriff court. In the winter of 1907, a man, suffering from scarlet fever, was removed to a fever hospital belonging to the Glasgow corporation and died there. His widow sued the corporation for $5,000 for failure to take proper care of her husband in removing him to the hospital and while there in allowing him, when delirious from fever, to escape into the grounds and get a chill, which led to his death. The sheriff gave judgment against the widow on the following grounds: As regards the removal, her point was that the nurse in charge of the ambulance allowed the patient to walk to it instead of having him carried. The sheriff found that the patient elected to walk and that there was no proof that he suffered from doing so. The main issue, however, was that the defendants were negligent in allowing the patient while delirious to escape. On the night in question the ward was admittedly abnormally full, containing 32 patients, of whom only 4 were adults, the others being boys. More than half of the patients were convalescent and needed no attention during the night. Under ordinary circumstances, the one staff nurse was considered sufficient, but on this night there were, in addition, a night sister within call, a male attendant watching this particular man, and another available in case of emergency. The resident physician was under the same roof and also within call. The patient was delirious, imagined he was ill-treated, and got out of bed more than once. At 11:30 he got up and evaded the male attendant and nurse. He ran about the ward a little and then suddenly broke a window and escaped into the grounds. He was captured, brought back and put into a restraining sheet. He died four hours later. The sheriff found that the attendance provided was sufficient and that there the responsibility of the defendants ended. The attendants had not failed in their duty, and there was no evidence that the use of the restraining sheet was improper. He did not consider that either the physician or the male attendant committed any error of judgment, and even if it were proved that the physician committed an error of judgment that was no liability of the defendants.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, March 4, 1910.

### Two New Professors at the College of Medicine

It will be remembered that there were two vacant chairs at the Paris college of medicine, one, that of internal pathology, made vacant by the death of Professor Brissaud, the other, that of general pathology and therapeutics, made vacant by the resignation of Professor Bouchard (THE JOURNAL, Jan. 15, 1910, liv, 217, and Feb. 5, 1910, liv, 478). The minister of public instruction has just appointed Dr. Fernand Widal to the first chair and Dr. C. Achard to the second. The first was proposed to the minister by the professors of the college unanimously and the second by 43 out of 44 votes. Such unanimity is extremely rare at the college of medicine and it is altogether to the honor of the two new professors.

Dr. Widal, *agrégé*, member of the Academy of Medicine and of the Superior Council of Hygiene of France, physician of the Cochin Hospital, thus becomes the youngest professor at the college. He is especially well-known by the method of serodiagnosis of typhoid fever which bears his name, as well as by his works on the cure of insufficiency of chlorids in diseases of the kidneys.

Dr. Achard, *agrégé*, physician of the Neckar Hospital, is an investigator whose merit is equaled only by his modesty. His works deal with the most varied subjects, especially with the diseases of the kidneys and of the blood. He has written, in collaboration with Professor Lannelongue, some interesting essays on serotherapy of tuberculosis. In 1901, while taking the place of Professor Bouchard at the college of medicine, he gave a series of instructive lessons on the new procedures of clinical exploration, which have been published. With M. Debove, he edited a text-book of medicine in nine volumes, and more recently, with MM. Debove and Castaigne, he edited a manual of the diseases of the alimentary canal and a manual of the diseases of the kidneys and the suprarenal capsules.

### Action Against Fraud

The general confederation of wine-growers of France in a letter to M. Paul Bolo, general delegate of the White Cross of Geneva (THE JOURNAL, Oct. 9, 1909, liii, 1200) announces that it has just undertaken to unite the various agricultural societies for the purpose of fighting fraud, and it requests support of the White Cross in this work.

### Personal

In its session of March 1, the Paris Academy of Medicine elected Dr. D'Espine of Geneva and Sir Victor Horsley of London, foreign associates.

### The MacLaughlin Electric Belt in the Courts

On the initiative of three medical organizations, the *Syndicat des médecins de la Seine, the Syndicat médical de Paris,* and the *Syndicat général des médecins français électrologistes et radiologistes,* the directors and physicians of a widely advertised concern, the "McLaughlin Institute," which made extravagant claims for a belt called "Electro-Vigor," have finally been prosecuted for illegal practice of medicine and for fraud. It was shown that "Dr." MacLaughlin had no medical diploma from any country. The experts decided that the "Electro-Vigor" belt was a useless and harmful piece of apparatus. Nevertheless the court did not uphold the charge of fraud but only the charge of illegal practice of medicine. The three directors of the institute, Zook, Cooly and Cooper were condemned to pay fines of $100 (500 francs) and Drs. Dumoret and Ficatier, the first of whom had already been cited before the court, were sentenced to pay the same fine for complicity. The three organizations which were civil parties to the suit had asked $10,000 (50,000 francs) damages, but were awarded only $200 each, because, according to the court, the injury to their interests was not as great as claimed, since the greater number of the patients thought of buying belts only after having exhausted other means and consulted one or more physicians. [EDITOR'S NOTE: In THE JOURNAL, Feb. 26, 1910, page 713, it was noted that a fraud order had been issued by the United States Postoffice Department against the "Dr. Hall Electro-Vigor Company"—a name under which, we are informed, the McLaughlin people do business in this country.]

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, March 3, 1910.

### Personal

Professor Kroemer, assistant to Professor Bumm at Berlin, has been appointed *director of the university gynecologic clinic* at Griefswald.——Dr. L. Seitz, privat-docent at Munich, has been called to the directorship of the university gynecologic clinic at Erlangen. These appointments fill the chairs left vacant by Pfannenstiel and Runge.——Professor Leber, the distinguished Heidelberg ophthalmologist, will celebrate his seventieth birthday, February 28.——Professor Bäumler of Freiburg celebrated the fiftieth anniversary of his doctorate February 18.

### Age Limit for University Professors

The question of age limit for a university professor, which I touched on in my previous letter on the occasion of the announcement of Olshausen's resignation, will probably become a matter of a general regulation in Germany. Already in the last few years the opinion has been expressed that a similar regulation of the teaching of university professors should be established as is the case in Austria and to some extent in Italy. The universities have so far refrained from action in this matter so that the government has seen no occasion for a change in the legal status. Now, however, the medical faculty at Freiburg has itself made the proposal to the government of Baden to introduce an age limit at first for those in charge of the clinics. It is uncertain but not improbable that the Baden government will put in force the proposal of the Freiburg faculty.

### International Congress for the Hygiene of Infancy

The third International Congress for Infant Hygiene will occur in Berlin in 1911. A few days ago the German committee on organization for this congress was established. Bum, the president of the imperial health office, who rendered very good service in a similar capacity for the Berlin International Congress on Hygiene, was chosen Chairman and Privy Counsellor; Dietrich and Heubner were *chosen as his representatives.* Professor Keller, the director of the Augusta Victoria institute to restrict infant mortality, was elected general secretary. The empress will probably assume the protectorate of the congress.

### The Use of Beer in Greater Berlin

The use of beer in Greater Berlin is decreasing from year to year; especially is the so-called "genuine beer" (*Echtes Bier*) from Bavaria and Bohemia drunk to a less extent. The latter circumstance shows that the abstinence movement has gained a greater foothold among the better classes of the population than among those who drink the cheap domestic beer. Until the year 1906 the importation of beer into Berlin continually increased, but since then the importation has fallen off from year to year. In 1906 it amounted to about 99,000 hogsheads of 1,000 kilograms (about 100,000,000 liters, 25,000,000 gallons); in 1907 about 95,000 hogsheads; in 1908, 91,000.

### Statistics of the State Supported Compulsory Insurance

From the business report of the imperial insurance office for 1909, just appeared, the following items are of general interest: About 27,000,000 persons were insured in Germany against accidents and 653,000 accidents were reported; $15,000,000 (62,000,000 marks) were paid as compensation. In invalid insurance up to the end of 1909 2,300,000 invalid, sickness, and old age pensions were granted. In 1909 about $46,000,000 were paid. The entire income from contributions of the insured amounted to about $45,000,000; 2,828 persons were cared for in the homes for the disabled and infirm and in the hospitals. Up to Dec. 31, 1909, there had been loaned for public purposes from the funds of the insurance societies for the building of workingmen's homes $67,000,000 and for the building of hospitals and convalescence homes as well as for other philanthropic purposes $94,000,000.

### Treatment of Diffuse Peritonitis

At the last session of the independent surgical society of this city (*Freie Vereinigung der Chirurgen*) there occurred, following an address by the well known Professor Rotter, an interesting debate on the treatment of diffuse peritonitis. Rotter distinguished mild diffuse peritonitis, in which the lower abdomen contained an abundant purulent exudate, while the upper part of the abdomen was only slightly affected and severe diffuse peritonitis in which the entire cavity of the peritoneum is filled with pus. In each of the two groups an early and a late stage should be especially considered. *Among the* mild cases Rotter had treated from 1907 to 1909 33 cases with no mortality and in the late stage 17 cases with a mortality of 11 per cent. In the severe form the mortality in the early stage fell from 17 per cent. in 1905-06 to 10 per cent. in 1909. Fifty-eight cases in the late stage were *operated on in 1905-06* with a mortality of 77 per cent., in 1907 and 1908, 72 cases with 41 per cent. mortality and in 1909 30 cases with 50 per cent. mortality. Rotter finds the reason for improvement in the death rate in the improvement of operative technic and in the change of indication. After 1907 the *mild cases* of diffuse peritonitis in the late stage were subjected to operation. In most cases Rotter wiped the cavity dry and more rarely irrigated, but as he has found that the irrigated cases less frequently show secondary abscesses he has again resorted to the irrigation method. At any rate he *regards irrigation* as the more thorough method. He has observed no essential improvement of the results from drainage.

Professor Körte emphasized the fact it was difficult to *decide* whether or not an individual case should be included in the class of diffuse purulent *peritonitis.* The wider the limits are extended the more favorable the results. Early operation is of great importance in all forms of peritonitis; this is seen most plainly in appendicitis. In this disease those operated *on* the first and second days showed a mortality of 21.5 per cent. and those operated *on after the third day* gave a mortality of 57 per cent. In 10 cases of perforation of the stomach with operation after the first day, only a single patient recovered, but of 38 operations within the first twenty hours *nearly* three-fourths recovered. The intensity of the infection is of very *great significance for the* result of treatment. The worst form is that in which there is no formation of a purulent exudate but merely a clouding of the serous membrane with precipitation of fibrin. In these cases operation is very seldom of any avail. The putrid ichorous exudates are much less dangerous. Körte considers irrigation of the peritoneal cavity as the better procedure. Thorough irrigation with hot salt solution cleanses the peritoneal cavity with least damage, exercises a stimulating influence and arouses the activity of the intestine. It is important that a free outflow be provided for the liquid in irrigation. The peritoneal incision must be large enough to give a good view. He has almost always introduced drainage in appendicitis. It is a matter of indifference whether a rubber or glass drain is used. In perforation of the stomach he has lately regularly closed the abdomen after thorough irrigation. He has departed from the principle of operating on every case of peritonitis received. He operates only when a successful cure is still possible. Non-puerperal peritonitis arising from the female pelvic organs recovers relatively often of itself, so that Körte operates only in exceptional cases. Puerperal peritonitis affords a very unfavorable prognosis for operation.

According to the report of Professor Neumann, director of the surgical section of the municipal hospital at Friederichshain, the mortality of peritonitis operations made by him has decreased from 72 per cent. in 1903 to 23 per cent. in 1909. He also is an adherent of the irrigation method.

Professor Koblanck, head of the gynecologic section of the Rudolf Virchow hospital, has operated in 22 cases of diffuse puerperal peritonitis, with only two recoveries. Whether the sexual organs shall be extirpated at the operation is to be decided by the general condition and by the nature of the affection. He also advocates irrigation with sodium chlorid. The severity of puerperal peritonitis depends on several factors: First, it is often due to the most toxic germs, the hemolytic streptococci. Second, the inflammation spreading from the uterus is never limited to the peritoneum but also affects other tissues (connective tissue, vessels, etc.), and, thirdly, there are usually complications in distant organs.

Professor Borchardt, surgeon at the Rudolf Virchow hospital, saw much worse results by the dry method than by the irrigation method in Bergmann's clinic, where he was formerly assistant. He uses for irrigation a normal salt solution heated to 40 C. until the water runs away clear, using sometimes as much as 40 liters. In very virulent cases he pours into the peritoneal cavity after the irrigation 1 to 2 bottles of Hoechst's streptococcic serum. While he has never seen any indisputable benefit from this remedy, it has never done any harm. As a rule he drains.

### Abuses in the Manufacture of Medicine

The abuses in the manufacture of medicines, existing in almost all civilized countries, which consist especially in the sale under false representations of medicines compounded by unreliable manufacturers, are attributed by Professor Thoms, the director of the pharmaceutical institute of the Berlin University, in a recent article, to the fact that physicians are forgetting more and more how to write prescriptions and content themselves with ordering ready prepared remedies which are furnished by the manufacturers. In his opinion this practice constitutes a danger for the future of the medical profession. The more the physician neglects to combine the simple articles of the materia medica in his remedies and the more he makes use of ready prepared compounds in his prescriptions, the less the public will employ physicians and the more they will resort to self-medication which is made extraordinarily easy by the preparations furnished by the manufacturer, already put up, and provided with directions for use. The practicing physician should cooperate in the effort to restrain this commercial excrescence on the drug business.

### Fourth International Congress for the Care of the Insane

There will convene in Berlin from Oct. 3 to Oct. 7, 1910, in the house of delegates (*Haus der Abgeordneten*), the fourth international congress for the care of the insane; the meeting has been arranged by the German society for psychiatry. The congress is not exclusively concerned with the questions and problems of the temporary treatment and provision for insane patients but will take up all investigations, regulations, and arrangements which serve for the protection of mental health in all respects. For this reason the social defects and hygienic errors which are injurious to intellectual life, the origin of mental disease from the earliest childhood and its greatest possible prevention will form subjects of discussion. The remedies for abnormal psychic conditions, the treatment both in and out of asylums, the systematic care in families, employment and relief of patients and their families, the determination of their legal relations, and their assistance and care after asylum treatment will be investigated. The education and protection of youthful psychopaths and imperfectly developed individuals will be established on the basis of scientific experience. There will be combined with the congress an exhibition of methods for the care of insane and nervous patients which will give a complete exhibition of the progress made in this field in Germany in the last three decades, and a view of the arrangements which are in use in other civilized countries. Most of the German authorities and societies have already signified their cooperation so that the exhibition promises to be very instructive.

### The Action of Diphtheria Antitoxin

A remarkable evidence of the critical spirit of physicians and of their skepticism in regard to therapeutics is shown by the fact that even to-day, nearly twenty years after the introduction of diphtheria antitoxin, a debate in regard to its efficiency can be held in which there are many expressions of doubt.

A short time ago there occurred in the Hamburg medical society a discussion on this subject which continued through several sessions and which is of general interest. The reason for the debate is that there is now in Hamburg a severe epidemic of diphtheria, characterized by its extent, the large number of adults attacked, by intense symptoms in the throat and frequent involvement of the nose, a frequent hemorrhagic tendency, many late heart lesions, a high infectiousness for physicians and nurses, a marked tendency to relapses and a higher death rate. The hospital physician, Dr. Rumpel, was of the opinion that unexceptionable statistical evidence of the absolute efficiency of antitoxin has not yet been produced. The very severe epidemic in Hamburg toward the end of the 80's showed a mortality of 16.9 per cent., while that of the present epidemic is 12.3 per cent. It is interesting to compare the year 1893 (before antitoxin treatment) with 2,712 cases and 411 deaths, that is, 15.2 per cent., and 1909 (to the end of October) with 2,167 cases, and 267 deaths, that is, 12.2 per cent. It is certain that with the present prevailing bacteriologic diagnosis of diphtheria, more mild cases are included than was the case in 1893.

Rumpel presented a compilation of the percentage death rates in diphtheria since 1880. The first curve represented the mortality rate of the Eppendorf hospital in which since 1894, nearly all and since 1899 all the patients have been injected; the second curve, that of the city (outside the hospital) in which antitoxin was given later and only partially, and, third, that of the country district in which the injections were made still later and less frequently. All three curves showed an identical sharp fall in 1894 and a renewed rise at the present time. If the statistics of the cases in the earliest stages and of the most favorable character are to be cited as evidence of the activity of the serum, it may be objected that with other patients also the mortality is less the earlier the treatment is instituted. Among those admitted to the hospital on the first day of the disease, there is found the great number of mild and brief cases which influence the statistics favorably. Those admitted on the third day or later do not include such cases because the disease has already run its course. To this must be added the fact that a patient still infectious on the fourth day with a bad prognosis, will more readily be sent to the hospital by the physician and relatives than one in whom the prognosis is evidently good. Rumpel distinctly admits the temporary favorable influence of the injection on the local process. If, in spite of this, the hospital mortality according to his statements is not materially diminished by the antitoxin, the explanation is found in the fact that many of those who are tided over the acute infectious stage with the help of the serum, succumb to later occurring complications, especially heart paralysis.

In opposition to Rumpel and some other physicians, particularly of the older school, Professor Lenhartz took a decided stand in favor of the importance of diphtheria antitoxin. Both on the ground of his own experience of many years and of the diphtheria conditions which had been observed in the last year in the Hamburg-Eppendorf hospital he would not neglect the use of antitoxin in any case of diphtheria. As has always been emphasized, the timely administration is very important for its successful action. In marked contrast with the high mortality of those cases which entered the hospital from the city are the results in cases of infection acquired in the hospital itself. In the Eppendorf hospital 54 patients and employees were taken with diphtheria, a part of whom had the disease severely; only 2 died, children of one and two years of age, both of whom were admitted with bronchopneumonia and were in a very bad general condition. All the other patients recovcred, but all had received an injection of antitoxin in the first twenty-four hours. In therapy Lenhartz advises *not* to give large doses of the serum; children and adults should commonly receive in the first twenty-four hours only 600 to 1,000 units and later, according to the severity of the case, 1,000 to 1,500 units.

Professor Deneke demonstrated the activity of antitoxin from the collective statistics of Hamburg. According to a report of the health office, the mortality before the introduction of antitoxin (1872 to 1894) varied between 12.4 and 19.6 per cent. and after the introduction of the serum (1895 to 1908) between 6.1 and 10.1 per cent., that is, the highest mortality of the antitoxin period is 2.3 per cent. below the lowest mortality of the ante-serum period. The average mortality has been reduced by one-half since the introduction of antitoxin. These results obtained from very large figures are, in my opinion, not to be invalidated by the statement of Rumpel that since the introduction of the bacteriologic method of diagnosis many mild cases are included. Deneke considers the experience of individual physicians as still more convincing than the statistics. "Previously we had the feeling of helplessness against the spread of the disease, but since the introduction of antitoxin, the disease is under our control if we are called on for treatment early enough."

The statistics introduced by Professor Deyke produced a distinct impression as he included in his tables all of the material published in the literature accessible to him. According to these, in about 80,000 antitoxin cases there was a total mortality of 15.2 per cent.; 4.3 per cent. on the first day; 7.6 per cent. on the second; 14.7 on the third and 31.6 on the fifth. On the other hand, in the statistics of Aoser, among 2,500 diphtheria patients treated without serum, there was a total mortality of 22 per cent.; 19 per cent. on the first day, 17 per cent. on the second, and 37 per cent. on the sixth.

In closing the discussion Rumpel still maintained that it was not correct to inject in the mild and subsiding cases. This view was sharply opposed by the other participants as cases originally mild suddenly might become very severe. As a practical result of the entire discussion it may be noted that the medical board of Hamburg appropriated $750 (3,000 marks) to furnish diphtheria antitoxin for patients not able to pay, and the issuance of inoculation tubes and their transportation to the hygienic institute are simplified so that the bacteriologic diagnosis might be made and treatment begun earlier.

## VIENNA LETTER

*(From Our Regular Correspondent)*

Vienna, Feb. 25, 1910.

### The Reorganization of Hospitals

In a previous letter to The Journal (Feb. 5, 1910; liv, 479) it has been explained that a reorganization of medical institutions was secretly prepared by the ruling political party, which would mean the handing over of these institutions to political influences. Vehement contradictions only proved the correctness of the information, but an energetic resistance from all concerned and from the general public was strong enough to block the scheme. Nevertheless the bankrupt condition of the *Krankenhausfond* (the fund for all hospitals of Vienna) is a bitter fact, and in order to make both ends meet, the charges for admission have to be raised. This necessity is very unpleasant for those in power now, for the majority of patients come from the country districts, where the staunchest supporters of the clerical party live, and thus their voters have to pay more than before for hospital treatment.

### Prohibition of White Phosphorus

A bill prohibiting the use of white phosphorus in match-factories has recently become law. It is due entirely to the efforts of medical men (see The Journal, April 24, 1909, lii, 1345, and July 17, 1909, liii, 217).

### The Health of Vienna Laborers

The law of 1885, which necessitated the formation of compulsory sick-benefit clubs for all laborers, factory hands and employed persons earning less than $40 a month, has resulted in exact data on the health of part of the population. Thus the report for 1909 has just been published by the Union of Sick-Benefit Clubs which comprises 320,000 members, or about one-sixth of the inhabitants of Vienna. The report shows that the number of persons who were on the sick-list during 1909 was 115,525, or about 35 per cent. of all members. Only the cases of those who were laid up for at least three days and were unable to earn their living are reported. The morbidity improved constantly from January to December, for in the four quarters of the year the figures were 34,257, 28,893, 26,289 and 26,086. These figures mean the newly notified cases of disease. Tuberculosis of the respiratory passages is the most important of all our diseases; nearly 10 per cent. of all the cases are classified under this head; cases of other diseases of the respiratory organs amount to 14 per cent.; rheumatic diseases, 9 per cent.; tuberculous disease of the bones, 6 per cent.; disorders of the alimentary canal, 7 per cent.; and 17.5 per cent. of disabilities are due to industrial accidents. The mortality amounted to 1 per cent. of all members or about 3 per cent. of all patients. Here again tuberculosis claimed 1,510 persons, or 44 per cent. of all deaths; injuries were responsible for 108 deaths, or 3 per cent.; cardiovascular disorders for 420 deaths, or 12.5 per cent. The mortality decreased as did morbidity, the first quarter of the year showing 944 deaths, the last only 734, the other figures being 909 and 795. The cost per patient per day was on an average about 75 cents, or about $18 per patient, as the average duration of illness was twenty-four days. These figures comprise only the expenditure for sick-pay, doctor and medicines. A good many patients were sent to the public hospitals, for whom there had to be paid 50 cents per day to the hospital, while their sick-pay was reduced 50 per cent. If the different classes of diseases are considered separately, it appears that tuberculous patients were laid up the longest of all, the 11,000 phthisis patients being on the sick-list for eighty-six days on an average, or each tuberculous patient costing the club $65. Therefore, the report points out, it would be a much more economical way to erect special sanatoriums for phthisical members, where they would be made fit for work and cured much more quickly than at home. As regards the distribution of this disease, the printers, tailors, stonemasons, iron-workers, bakers and boot-makers give the worst figures (in the order as they are enumerated). The serious condition shown by the presence of the disease among bakers is emphasized in the report and it is pointed out, very justly as I believe, that the only means of escape is the erection of mechanical bakeries, where the flour and bread are handled solely by machines. Such bakeries are in existence in this country only in a few places, and only one of this kind is in Vienna. It is interesting to note that this model bakery is owned and run by a laborers' cooperative society.

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## Miscellany

**Earlier References to the Relation of Flies to Disease.**—In *Science* for February 18, is an interesting note by Prof. William A. Riley of Cornell University on the fact that the idea of the transfer of disease by insects is by no means new. Professor Riley says: "It is not generally known that as early as the sixteenth century there was definitely promulgated the theory that flies play a rôle in the transmission of the plague. Dr. Josiah Knott, 1849, lists Athanasius Kircher as among the earlier writers who believed that insects served as transmitters of disease. Dr. Kelly, in his fascinating volume, 'Walter Reed and Yellow Fever,' goes further and quotes from Kircher's 'Scrutinium Physico-medicum,' published at Rome in 1658, the remarkable statement:

> "There can be no doubt that flies feed on the internal secretions of the diseased and dying, then flying away, they deposit their excretions on the food in neighboring dwellings, and persons who eat it are thus infected.

"Unfortunately Dr. Kelly's translation stops just short of Kircher's clause in which he attributes this theory to Mercurialis. Mercurialis, a celebrated Italian physician, who lived from 1530 to 1607, was one of the encyclopedic writers typical of the period. I have searched the available volumes of his works, including several editions of his extended treatise on the cause and nature of the plague. ('De pestilentia . . . in universum, præsertim vero de Veneta et Patavina,' Venice, 1577.) So far I have failed to locate the reference in question, but it is evident that Kircher was indebted to Mercurialis for the suggestion. The statement of Mercurialis can be regarded as no more than a lucky guess, but to Kircher we must give more credit. This astute Jesuit, born in 1601, was an indefatigable worker, and his writings are much more than mere compilations. There is no doubt that long before Leeuwenhoek's discovery Kircher had seen the larger species of bacteria, which he described in the following words:

> "It is known to all that decaying bodies abound in worms, but not until after the wonderful invention of the microscope was it found that all putrid substances swarm with an innumerable brood of worms which are imperceptible to the naked eye, and I would never have believed it if I had not proved it by frequent experiments, during many years. ('Scrutinium Physico-medicum,' 1658 ed., p. 42.) This is one of many references which might be cited. In his book 'Ars magna lucis et umbræ,' published twelve years earlier, there is to be found mention of these 'worms,' showing that Kircher's observations really had extended over 'many years.'

"Among the substances in which he found these 'worms' he mentions spoiling meat, cheese, milk, vinegar and decaying serpents. He does not stop with the mere discovery, but he attributes the production of disease to the organisms, and formulates a theory of the animate nature of contagion. Interpreted in this light, the statement of Mercurialis assumes a new dignity. The germ theory of disease, which became dominant so soon after this period, fell into disrepute, to be revivified in the latter part of the nineteenth century. Only now are we putting to the test the theory of Kircher relative to the rôle which flies play in the dissemination of disease."

**Pathology and Progress of Pulmonary Tuberculosis Read by Sign and Symptoms.**—The symptomatology of tuberculosis becomes intelligible only as we understand what is taking place beneath the finger and stethoscope, says William Porter in the *Weekly Bulletin of the St. Louis Medical Society*. One of the earliest signs of localized disease in the lung is muscle tension of the corresponding side as noted by Pottenger. Examining patients with his eyes closed Porter was astonished to find how accurate the evidence was, and especially in the early cases in which the lesion is beginning and ordinary interrogations are inadequate. Next to this as an early sign is slight bronchial roughness due to tubercles in the lumen of the tubule, producing a slight change in the *respiratory note*, not to be confounded with the increased pitch in the finer bronchial murmur often heard in bronchitis. This antedates prolonged expiratory murmur produced by invasion of the vesicle with impaired elasticity of the vesicle wall. Bacilli are not found in this stage as a rule. Potter uses the Moro and v. Pirquet tests, but believes that time is the best test and that if the patient is under observation he is taking no risk. The stage of consolidation is next, with impaired circulation and closed vesicles. Necrosis follows and bacilli are now found, and often the germs of mixed infection. The fever of tuberculosis is undoubtedly caused by the absorption of tuberculin from points of infection. He offers as a suggestion to be followed up that when the local infection is surrounded, absorption lessened and temperature normal, immunity may be induced by stimulating absorption under careful observation by well-directed exercise or passive manipulation either by light percussion or by the vibrator. He has two patients in whom he can induce a degree of fever by gentle vibration over the site of the disease. Believing that the intercurrent diarrhea and distended ascending colon are suggestive of autoinfection from the intestinal tract, Porter has given an enema with the patient in the knee-chest position, followed after a week by the daily use of normal salt solution. This procedure is of value in many febrile cases. Hemorrhage is alarming to the patient but unless caused by perforation of a large vessel in the majority of cases is not dangerous, but may alleviate the symptoms.

**Subpreputial Method of Applying Mercury.**—G. Milian in the *Progrès Médical*, Dec. 11, 1909, suggests a novel way of administering mercury. A pastille the size of a bean is made with cocoa butter containing 0.01 gm. (1/6 grain) of mercurial ointment and this is softened and pressed into the sulcus behind the glans penis and the prepuce drawn over it. The medicament melts with the heat of the body and the mercury is absorbed. Not enough liquid is produced by the melting of the cocoa butter to cause its escape from the preputial sac and practically all of the medicine is absorbed. The method suffices for the treatment of disease, especially syphilis, in any part of the body. It is more particularly applicable, however, to the treatment of local lesions.

# Pharmacology

## PASSIFLORA AND DANIEL'S CONCENTRATED TINCTURE OF PASSIFLORA

### Report of the Council on Pharmacy and Chemistry

The Council has voted that the drug passiflora (passion flower) be not accepted for New and Nonofficial Remedies and has recommended that the following article be published in The Journal. It is considered important to call attention, not only to the lack of reliable evidence of the therapeutic value of passiflora, but also to the absurdity of the claims which are made for Daniel's concentrated tincture of passiflora, a preparation which has been already refused recognition.

W. A. Puckner, Secretary.

### PASSIFLORA

Although passiflora was introduced into medicine nearly seventy years ago, the literature concerning it is not very extensive; it is not mentioned in the standard works on pharmacology and its chemistry seems never to have been worked out. There appears, also, to be no record of experimental investigations of the drug with reference to its pharmacologic action, except an article by I. Ott,[1] who used "Daniel's concentrated tincture." Ott claimed that it lessened the reflex irritability of the cord and paralyzed motion by acting on the motor centers in the cord, and that it increased the rate of respiration. He also stated that because of its action on the vasomotor centers it reduced the frequency of the heart-beat and lowered arterial tension, but these effects were only temporary.

On the clinical side the reports are not numerous and such as have been made do not appear to be based on very extensive trials nor on conditions of observation that would entitle them to more than slight consideration. S. D. Bullington[2] reports good results, but no cure, in one case of epilepsy, and improvement in a case of insomnia. W. J. Stapleton[3] recommends it in the form of a concentrated tincture (not the one advertised so extensively), and states that he has used it with great success in insomnia, hysteria, neurasthenia, neuralgia, nervous and physical prostration, and in alcoholism. In his opinion its action is most apparent in cases of nervousness due to causes other than pain. S. Harnsberger[4] reports two cases in which partial blindness followed the taking of potassium bromid and passion flower.

Extravagant and inconsistent claims are made for Daniel's concentrated tincture of passiflora in the advertising literature, where it is recommended for such a wide range of diseases as asthma, typhoid fever, convulsions and paralysis.

None of the evidence is sufficient to show that passiflora has therapeutic value; hence it is deemed inadvisable to include this drug in the list of nonofficial remedies.

## Chicago Medical Society Condemns Nostrum Work by American Druggists Syndicate

At the regular meeting of the Council of the Chicago Medical Society, March 8, 1910, resolutions presented by the Committee on Pharmacology through Dr. Walter S. Haines, chairman of the committee, were adopted as follows:

> *Resolved*, That the Chicago Medical Society in council assembled, condemns these practices of the American Druggists Syndicate, and that it calls on the National Association of Retail Druggists to secure their discontinuance, in order that the Chicago Medical Society may, with self-respect, be able to continue to cooperate with the Chicago Retail Druggists' Association in the "get-together" movement; be it further
>
> *Resolved*, That the Secretary of the Chicago Medical Society be instructed to publish these resolutions in *The Bulletin* of the Society, to transmit a copy of the same to The Journal of the American Medical Association and to editors of the various state journals, as well as other prominent medical journals, and that it be offered for publication in pharmaceutical journals.

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[1] Med. Bull., 1898, xx, 457-464.
[2] Nashville Jour. Med. and Surg., 1897, lxxxi, 107-109.
[3] Detroit Med. Jour., 1904-5, iv, 17.
[4] Virginia Med. Semimonthly, 1898-9, iii, 392.

## MORE MISBRANDED NOSTRUMS

### What Enforcement of the Food and Drugs Act Is Doing for the Protection of the Public

Lying on the label continues to be unprofitable, thanks to the efficiency of the officials who are intrusted with the enforcement of the national Food and Drugs Act. Many of the frauds which the government has shown up have been reported in THE JOURNAL; some of the latest judgments obtained against the exploiters of nostrums are now given.

#### "DR. FAHRNEY'S TEETHING SYRUP"

This preparation was put on the market by Drs. D. Fahrney & Son, Hagerstown, Md., and the following claims were made for it on the labels:

> "Is the best remedy for teething."
> "No bad results from the continued use of it."
> "Contains nothing injurious to the youngest babe."
> "A sure remedy for all ailments incident to babes from one day old to two or three years."

A sample of the preparation was analyzed at the Bureau of Chemistry, United States Department of Agriculture and was found to contain:

| | |
|---|---|
| Alcohol, by volume | 8.84 per cent. |
| Chloroform, to the fluid ounce | 0.408 minims |
| Morphin, to the fluid ounce | 0.126 grains |

Inasmuch as a mixture of morphin, chloroform and alcohol cannot truly be said to be non-injurious to infants, and as "bad results" are likely to occur "from the continued use of it," as, too, it is neither "a sure remedy for all ailments" nor "the best remedy for teething," a United States district court decided that "Dr. Fahrney's Teething Syrup" was misbranded. The defendant entered a plea of guilty and a fine of $100 was imposed.

#### "GOWAN'S PNEUMONIA CURE"

This nostrum, which was marketed by the Gowan Medical Company of Chicago, has been referred to before in THE JOURNAL,[1] a cursory examination having been made in the Association laboratory. The particular claims on which the government obtained its judgment for misbranding were:

> "It is entirely different from any other remedy, containing new principles never before applied."
> "Supplies an easily absorbed food for the lungs that quickly effects a permanent cure."
> "It was endorsed and advertisement accepted by the *American Medical Journal* as a valuable therapeutic agent."

A sample of "Gowan's Pneumonia Cure" was analyzed at the government laboratory and the product was found to consist of:

Lard
Camphor
Turpentine
Carbolic acid
Opium
Stearin
Quinin
Quinin sulphate

As the analysis showed that the product was not "entirely different from any other remedy" and did not contain "new principles," as, moreover, there is no such thing as a "food for the lungs" separate and distinct from a food for the whole body and, lastly, as the preparation was never advertised in, nor indorsed by, the *American Medical Journal*, the nostrum was declared misbranded. It was further misbranded in that the carton labels did not have printed on them in plain and conspicuous type the amount of opium which the preparation contained.

The defendant pleaded guilty and was fined $200.

#### "EYELIN"

This was a Chicago product, marketed by the Eyelin Company and sold at one dollar a box. The label contained the statements:

> "Repairs and Rejuvenates the Eye and Sight."
> "Reshapes and Rejuvenates the Eye and Sight."

Analysis of the stuff in the government laboratory disclosed the fact that it consisted essentially of:

Vaselin, perfumed.

The court decided that petrolatum, even when perfumed, could scarcely be capable of repairing, reshaping or rejuvenating either the eye or the sight and that "Eyelin" was, therefore, misbranded. A plea of guilty was entered and a fine of $10 imposed.

#### "BROMO FEBRIN"

William H. Smaw & Company, of Baltimore, Md., made a "headache powder" which they admitted contained 4 grains of acetanilid. The claims made for this preparation were:

> "Permanent in Results."
> "It is Absolutely Safe."
> "Sure Cure for Headache and Neuralgia."

Analyzed at the Bureau of Chemistry, each powder was found to contain:

| | |
|---|---|
| Acetanilid | 6 grains (nearly) |

As a headache powder containing nearly 6 grains of acetanilid must be far from "absolutely safe," as, too, acetanilid is not a "sure cure for headache and neuralgia," and as the results obtained from the use of acetanilid are not "permanent," the court declared the nostrum misbranded and the defendant on entering a plea of guilty was fined $20.

#### "RADOL"

This fake will have a familiar sound to many of our readers as it was exposed[2] in connection with its exploiter one "Rupert Wells," whose real name is Dennis Rupert Dupuis. This individual who for years conducted a viciously cruel "cancer cure" at St. Louis was finally put out of business by the government through the issuance of a postoffice fraud order. "Radol" was the "radio-active" and "radium impregnated fluid" which Dupuis sold to his dupes for the "cure" of cancer. As has previously been reported, analysis showed that "Radol" was in fact a weak, acidulated, watery solution of quinin sulphate, with about 7 per cent. alcohol. As it was neither radio-active (to a greater extent, at least, than any hydrant water) nor contained radium and as, too, the label failed to state the presence of alcohol the nostrum was declared misbranded on both counts.

A plea of guilty was entered and fines of $100 and $50 respectively were assessed.

## Correspondence

### Inconsistency in Medical Teaching

*To the Editor:*—As a senior student in a medical school I take the privilege of passing a criticism on one of the most flaring inconsistencies in our present system of medical training. In fact they are of such serious import that I sincerely hope for a thorough, emphatic comment editorially in THE JOURNAL. The seed is sown in the medical school and the harvest of weeds is reaped in professional life—I refer to the dispensing of proprietary medicines.

From what I am able to learn, most medical schools are alike in this. The good pharmacologists rack their brains and ingenuity to teach us to think treatment in drugs, not medicines, and treat each case for itself. Then the physicians in charge of the dispensaries prescribe treatment, "give prescription number so and so." The inconsistency is interesting if nothing else. One minute our professors shout their condemnation of proprietary medicines, and the next follow the "easiest way." Will you blame us next year?

EDWARD J. KEMPF, Cleveland, O.

### The Distribution of Rabies

*To the Editor:*—In the editorial on page 799 of THE JOURNAL, March 5, 1910, the following sentence occurs: "In short, so far as can be learned, in the territory of the United States only the Rocky Mountain and Pacific Slope regions are free from the disease."

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[1] THE JOURNAL A. M. A., May 9, 1908; reproduced in "The Propaganda for Reform," p. 137

[2] THE JOURNAL A. M. A., Feb. 20, 1909, and reprinted in pamphlet form as "The Rupert Wells Case," price, four cents.

This statement is erroneous for the reason that during the past few months rabies has been found among dogs in at least two localities in California, one focus being in the vicinity of Los Angeles and Pasadena, the other being in the central part of the state.

In the monthly bulletin of the California State Board of Health for January, 1910, v, No. 5, Dr. R. A. Ward, director of the State Laboratory of Hygiene reports four positive cases of rabies, presumably in dogs.

GEORGE W. MCCOY,
Passed Assistant Surgeon, U. S. P. H. and M.-H. S.

## A Department of Public Health

The following correspondence, which explains itself, is commented on editorially in this issue:

UNITED STATES SENATE.
WASHINGTON, D. C., Feb. 23, 1910.

*Dr. Charles A. L. Reed, Chairman of the Legislative Committee, American Medical Association.*

*My Dear Doctor Reed:*—I greatly appreciate your courteous letter of the 18th inst. I am aware that there has been objection made to [illegible] cabinet officer, but I am unable to believe [illegible] and importance of this subject has been realized by those who seem to think that a cabinet officer is too great a position for the officer responsible for safeguarding the public health, and that a subordinate bureau should suffice.

I called attention in the United State Senate a year ago (June 15, 1909) to the abnormal death-rate in the United States as compared to the death-rate in New Zealand and in the Australian states, where they have a better form of government for the preservation of human life; where the greed of money-making is not permitted to sicken little children with milk preserved with formaldehyd and other impure food and where monopoly is not permitted to establish or maintain unhealthy conditions destructive of human life.

The death-rate in the United States is 16.1 persons to the thousand, in the Australian states 10.6 to the thousand, in New Zealand 9.3 to the thousand, showing the average loss of life in the United States of seven to the thousand in excess of this better governed country. In other words our great republic shows an annual loss of over 500,000 human beings who might be saved, for our country is as healthful as New Zealand.

I believe in CONSERVATION, and first of all in the conservation of human life and that unthinking commercial ambition shall not be permitted to destroy it. The magnitude of this matter I am not willing to minimize or leave the care of the public health under a subordinate bureau however organized, although that is better than nothing. I should like to see a "Secretary of Public Health" because the importance and dignity of the work justifies it. If the medical men of the United States believe in this they should say so, as it is the duty of the profession to point out the importance of the matter.

In conclusion, permit me to say that I stand unequivocally for the principle of the bill as I have drawn it, that is, for a Department of Public Health to be made up of the health agencies of the government and to be under the direction of a Secretary of Public Health. If, however, it shall be found that the bill can be strengthened in its details, it can be done in committee and to that end I shall be very grateful for suggestions. Very respectfully, ROBERT L. OWEN.

CINCINNATI, March 10, 1910.

*Hon. Robert L. Owen, United States Senate, Washington, D. C.:*

*Dear Sir:*—In compliance with your request for suggestions to be taken up in connection with the hearing on the bill recently introduced by you to create a department with a Secretary of Health, I beg to reply in my capacity as Chairman of the Legislative Committee of the American Medical Association. In that capacity I have the honor at the same time to request, first, that you avail yourself of an early opportunity, and in your own way, to lay before the Senate the facts which I shall present and, second, that you arrange at an early date for a hearing on your bill, the vital principle of which is so distinctly in consonance with the interests of the people as represented by and through the medical profession.

This is shown by the fact that the American Medical Association, through its legislative conference attended by delegates from thirty-six states and from the Army, the Navy and the Public Health and Marine-Hospital Service, held at Chicago, March 2, 1910, urged by resolution, as the Association has repeatedly urged for nineteen years, "that a bill be passed recognizing the health interests of the country in the title of a department of the national government and that within that department there be organized all national health agencies."

The physicians of the country who, as professional students of the question and as the natural advisors of the people on health questions and who, consequently, have first knowledge of the subject, have long maintained their present attitude for the following specific reasons:

*First:* The time has arrived when, under the law of precedence, the health interests of the country ought to pass from their present bureau stage of development to that of a department. This course of evolution was exemplified, first, I believe, in the development of the Department of the Interior, then that of Agriculture and, finally, that of Commerce and Labor. In each of these instances the antecedent bureaus had existed for periods varying from a few years to a decade or two. The health interests of the country, more fundamental than all, have been left in the form of, successively a "Service," then of a "Bureau," for more than a century.

*Second:* The creation of a Department of Health is furthermore demanded, first, because sanitary science has demonstrated its ability to conserve the efficiency and prolong the life of the people and, second, because nothing less than the establishment of a department can have that maximum of moral force and educational influence, that maximum of prestige and effectiveness combined with business-like economy of administration that will enable it to deal with the disgraceful, not to say monstrous, conditions now prevailing in this country.

*Third:* That a Department of Health with the fulness of power and influence that can inhere only in a department and nothing less than a department, is demanded by the conditions to which I have alluded is conclusively established by the fact that, first, about 600,000 people die in this country every year from preventable causes; second, that something more than 3,000,000 more are made ill and idle for variable periods every year from the same causes; and, third, that the annual economic loss from this source alone amounts to more than $1,500,000,000 every year.

*Fourth:* That nothing less than a Department of Health acting in cooperation with the states and in full recognition of their rights and powers, is practicable for the assembling and coordinating of the existing health agencies of the government and for their effective, economic and business-like administration.

*Fifth:* That nothing less than the creation of a Department of Health can comprise a fulfilment of the pledge to the people contained in the platform of every political party that appealed to the popular suffrage in the last national campaign.

In view of the foregoing facts and considerations I have the honor to request that at the hearing on your bill care be taken to give special consideration to the suggestions which I shall enumerate.

Many, if not all of them, have been covered in general terms and some of them in specific terms, in your bill. It has seemed, however, that by presenting them somewhat in detail in the form of sections to a possible bill I could facilitate their consideration in consecutive order as follows:

*Section 1.* ought to provide, as your bill does provide, for the establishment of a Department of Health under the supervision of the Secretary of Health who shall be appointed by the President by and with the consent of the Senate at a salary of $12,000 per annum and who shall be a member of the cabinet of the President and who shall discharge the duties prescribed in the act.

*Section 2* might with propriety provide for the constituent bureaus of the Department of Health as follows:

*A. The Bureau of Hygiene and Preventive Medicine* to which (a) shall be transferred the Laboratory of Hygiene now located in the Bureau of Public Health and Marine-Hospital Service in the Department of the Treasury together with all duties, functions, powers, rights and prerogatives now vested by law in such Laboratory of Hygiene; and it shall be the further duty of the Bureau of Hygiene and Preventive Medicine (b) to cooperate with the respective states, territories and dependencies in accumulating statistics and other information as to causes and prevalence of disease, (c) to conduct continuous investigation into all sources of danger to human health and life, (d) to formulate rules and regulations for carrying out these provisions, and (e) to publish the records and results of its labors, all under the direction and by the approval of the Secretary of Health.

B. *The Bureau of Foods and Drugs*, to which (a) shall be transferred all duties, functions, powers, rights and prerogatives now devolving by the Food and Drugs Act of 1907 on the Bureau of Chemistry of the Department of Agriculture; and the Bureau of Foods and Drugs shall also (b) supervise the cleanliness and other hygienic and sanitary features of the buildings and products of manufactories, cold-storage plants and other establishments engaged in the commercial preparation or in the storage of any food product or products whatsoever destined for interstate commerce; (c) establish standards of purity of foods; (d) conduct investigations to determine the best method of preparing foods with reference to the full development of their nutritive value; (e) determine the food value of articles not now generally recognized as foods; (f) establish standards of purity for drugs; (g) make a systematic and exhaustive study of the medicinal flora of the United States and its territories and dependencies; (h) investigate, and where practicable, promote the naturalization and commercial cultivation within the United States, its territories and dependencies of medicinal flora indigenous to other countries; (i) publish reports of its investigations, activities and conclusions and, (j) formulate and enforce necessary rules and regulations all under the direction of the Secretary of Health.

C. *The Bureau of Marine Hospitals*, to which shall be transferred the marine-hospital service of the Bureau of Health and Marine-Hospital Service of the Department of the Treasury together with its present personnel and all duties, functions, powers, rights, and prerogatives now vested by law in such marine-hospital service, all to be administered under the direction of the Secretary of Health.

D. *The Bureau of Quarantine* to which shall be transferred the quarantine service now located in the Bureau of Public Health and Marine-Hospital Service of the Department of the Treasury together with its present personnel and all duties, functions, powers, rights and prerogatives now vested by law under such Quarantine Service, all to be administered under the direction of the Secretary of Health.

E. *The Bureau of Institutions and Reservations*, to which shall be transferred all hospitals, asylums, "homes" and infirmaries located in any other department of the government except the Department of War and the Department of the Navy. And there shall likewise be transferred to this bureau the Hot Springs Reservation and all other reservations now or hereafter established by the federal government for the conservation of health.

F. *The Bureau of Vital Statistics*, to which shall be transferred the Bureau of Vital Statistics now located in the Department of Commerce and Labor, together with its present personnel and all duties, functions, powers, rights and prerogatives now vested by law in such Bureau of Vital Statistics.

G. *The Bureau of Publication and Publicity*, which shall (a) publish the reports of the Secretary of Health and all reports, bulletins and documents of all bureaus of the Department of Health when approved for the purpose by the Secretary of Health; and (b) devise and carry out the most effective means by which information originating in the Department of Health or any of its bureaus may be most widely and effectively disseminated for the information and guidance of the people.

*Section 3* might with equal propriety provide that (a) there shall be a medical service of the Department of Health (b) designated by the initials U. S. H. S., meaning "United States Health Service," (c) which service shall consist of (1), a Regular Medical Corps which shall consist of the United States Marine Hospital Corps with its present personnel and without other modification in the law governing the same or in the regulations enacted in pursuance of such law than may be necessary to comply with the provisions of this act; and (2) a special medical corps, which shall consist of all physicians, surgeons and medical officers now employed in any capacity in any Department of the Government, excepting in the Army and Navy who, subject to the direction of the Secretary of Health, but without having their status otherwise disturbed, shall continue in their present capacity until the expiration of their present tenure, but thereafter all such positions shall be filled by detail from the Regular Medical Corps, which shall be selected in the first instance in accordance with regulations not less exacting than those which now govern entrance into the Marine Hospital Corps. (d) The Secretary of Health shall, consistently with the provisions of this act, (1) define the grades of health service with due regard to the period of service and efficiency record of its members, (2) prescribe uniforms and insignia for each grade, (3) formulate rules and regulations for the government of the corps and at his discretion (4) detail any member of the corps for duty in any bureau of the Department of Health, or (5) for duty in any other department on request of the secretary of such department or, (6) for duty in any state, territory or dependency or in the Panama Canal Zone when requested so to do by the proper authority of such state, territory, dependency or the Panama Canal Zone whenever the resources of the service will permit such detail.

*Section 4* might further define the duty of the Secretary of Health by stating that in addition to the duties elsewhere prescribed in the act (a) he may, in his discretion, transfer specific duties from one bureau to the other whenever required in the interests of both economy and efficiency; (b) exercise all the functions heretofore exercised respectively by the Secretary of the Treasury, the Secretary of the Interior, the Secretary of Agriculture and the Secretary of Commerce and Labor in connection with any bureau, division or service transferred by the act to the Department of Health; (c) exercise all duties heretofore exercised by the Secretary of Agriculture in the enforcement of the pure Food and Drugs Act; (d) discharge such other duties as may be prescribed from time to time by the President and, finally, (e) prepare and submit reports relative to his department embracing suggestions for the improvement of its service including recommendations for change in personnel, duties and salaries.

*Section 5* might provide (a) that the President be authorized and directed within one year from the passage of the act to appoint an Advisory Board of Health to consist of six members, two to be appointed for one year, two for two years and two for three years each, who shall serve without pay except their traveling expenses for not more than six meetings annually and whose functions shall be to confer with and advise the Secretary of Health relative to all questions of policy pertaining to human health and on other questions at the request of the Secretary of Health; (b) the present consultative arrangement between the present Bureau of Health and representatives of the state boards of health might with propriety be continued between the Department of Health, its secretary, advisory health boards, chiefs of bureaus and the representatives of the state boards of health.

*Section 6* and succeeding sections might provide in the usual way for the transfer of officers, clerks, employees, property, fixtures, etc.

In asking that you take the foregoing points under special consideration, that the hearing be arranged for the earliest practicable date and that legislation be reached if possible at the present session of Congress, may I ask that you urge on your colleagues the importance to the people of giving due weight to the conditions to which I have referred?

I have said that over 600,000 of our people die every year from preventable causes. Suppose that our entire Army and Navy were swept off the earth not once, but three times in a year. Would the Congress do anything about it? There are nearly 5,000,000 needlessly ill every year. Suppose that every man, woman and child in all New York, with Boston and Washington added, were similarly stricken. Would the Congress inaugurate an inquiry? Our losses from these causes amount to $1,500,000,000 every year. Suppose that every dollar appropriated annually for the expense of the government and half as much more were actually burned up and the ashes blown into the sea. Would the Congress take action in the premises?

Our health agencies are scattered, uncorrelated and unorganized. Suppose that our monetary system were looked after by a dozen or more bureaus in almost as many departments and that it were responsible for $1,500,000,000 loss every year. Would Congress be disposed to think that there was possible relationship between the lack of organization and the deficit?

In reiterating the request for an early and full hearing on this question, I beg to emphasize the fact that I do so in behalf of the American Medical Association and in behalf of the interests of the people of the United States as represented by and through the medical profession. And in this behalf and in view of the fact, deducible from our vital statistics, that in this country alone the people are dying from preventable causes at the rate of more than one every minute, and that they are falling ill from the same causes at the rate of more than five every minute, may I not venture to suggest that the subject is one of sufficient importance to be entitled to precedence over some other questions that may possibly be engaging the attention of the committee?

Awaiting your early reply, I have the honor to be, very sincerely, Charles A. L. Reed, Cincinnati.
Chairman of the Legislative Committee, American Medical Association.

P. S.—I beg leave to advise you that I am sending a letter to the same purport and largely in the same language as this, to Hon. James R. Mann, of the House, who has requested suggestions to be considered in committee in connection with the recommendations relative to the public health clause contained in the President's message.

# *Queries and Minor Notes*

## PHYSIOLOGY OF THE TONSIL

*To the Editor:*—Please give in The Journal the physiology of the tonsil. Text-book literature is decidedly meager.

Fred W. A. Brown, Oshkosh, Wis.

Answer.—The tonsils must be classified as vestigial in character, that is, they are vestiges in the mammals of structures that had important functions in the lower vertebrates. For an explanation of the origin of the tonsil and its nasopharyngeal relations we must go back to the lower forms of the mammals and to the lowest vertebrates. The higher fishes have four or five branchial arches between which are four branchial slits or gill slits. These branchial slits open out of the pharynx. Every mammal, including the human subject, show traces of the branchial arches and gill slits in the course of intrauterine development. Briefly stated, one may say that the first arch has its homology in the mandibular arch; the second and third in the arch of the hyoid bone; the fourth and fifth in the thyroid cartilage. In the pharynx of mammals the gill clefts do not form complete slits but simply pouches opening out from the side of the pharynx into the structures of the cervical region. The first branchial arch develops into the Eustachian tube and middle ear; the second into the tonsil; the third into the thymus gland; and the fourth into the thyroid gland. For a more extended description of this development of the tonsil Minot's work on human embryology may be consulted.

In common with other vestigial structures, the tonsil is more subject to diseased conditions than are structures which are not vestigial but actively functioning throughout the life of the individual. The tonsils are scarcely mentioned in any work on physiology. We quote two statements from medical authors regarding the function of the faucial tonsil; the conservatism of the author's statements is to be noted in each case.

"The physiologic function of the tonsil has never been established. From the experiments of Goodale and others it would seem that one of its offices is the arrest and destruction of pathogenic micro-organisms although the extent to which it is capable of this is limited and when the limit is exceeded the tonsil becomes a potent carrier of infection." From Dr. G. D. Bryden Delavan's article in the Reference Handbook of Medical Sciences, 1904, vii, 811.

The tonsils "probably protect the organism from infections of various kinds by acting as filters, and by in some way lessening the toxicity of micro-organisms which come within their sphere of activity. Although they are, accordingly, beneficent in their activity, the tonsils are very subject to morbid changes. Thus, they frequently become hypertrophied to such an extent as to interfere seriously with normal respiration, and they undoubtedly, under many circumstances, instead of acting as protectors against the invasion of micro-organisms, serve rather as *portals of entry*. The bacterial flora of the tonsillar surface is surprising in its number and variety and many virulent bacteria are found in the crypts." Francis R. Packard, M.D., Osler's Modern Medicine, iii, 596.

An excellent article on the anatomy and physiology of the tonsils, by Dr. C. M. Robertson, appeared in The Journal, Aug. 28, 1909, p. 684.

## TREATMENT OF NITROGLYCERIN HEADACHE

*To the Editor:*—Dr. Laws in The Journal, March 5, 1910, says that treatment of nitroglycerin headache is very unsatisfactory. I have treated three cases of this kind of headache, with very satisfactory results, by having the patient inhale the fumes of iodoform. I have always had a vague idea that there was a chemical combination between the iodoform and nitroglycerin. Am I right? Or is it a case of the cure being worse than the disease? I refer to nitroglycerin in dynamite.

H. C. Caldwell, Ridgeland, Wis.

Comment.—So far as we know, there is no chemical reaction liable to take place between iodoform and nitroglycerin under the conditions given above. Nitroglycerin is a very slightly volatile substance having a boiling point above 160 degrees C. and, when poisoning had been caused by it, it would be in solution in the blood. It is hardly to be supposed that iodoform in vapor would be sufficiently absorbed to react chemically with the nitroglycerin. Probably the relief of the headache is due to a sedative action of the iodoform vapor. Some caution should be exercised in using iodoform vapor in this way, however, as the toxic and fatal dose of iodoform when actually absorbed into the blood is not large, probably not more than from 1.20 to 2 gm. (from 20 to 30 grains).

# *The Public Service*

## Medical Department of the Army

Changes for the week ended March 12, 1910:

Gunckel, George L., dental surgeon, reports for temporary duty at Fort Moultrie, S. C., left Fort Morgan, Ala., on March 4, 1910.

Ames, John R., dental surgeon, returned to Fort Snelling, Minn., from duty at Fort Yellowstone, Wyo.

Ashburn, Percy N., major; Glennan, James D., lieut. col.; Frick, Euclid B., lieut. col., appointed members of a board to meet at the Army General Hospital, San Francisco, for examination of such officers of the Medical Corps as may be ordered before it to determine their fitness for promotion.

Bradley, A. E., lieut. col., granted 30 days' leave of absence about May 25, 1910.

Christensen, W. A., 1st lieut., M. R. C., ordered to active duty in the service of the United States, and will report to the commanding general, Philippines Division, for assignment to duty.

Mills, Robert H., dental surgeon, reported for temporary duty at Fort Ontario, N. Y.

Kean, Jefferson R., lieut. col.; Russell, Frederick F., major, ordered to make not to exceed four visits to Baltimore, Md., on official business pertaining to the inspection of plants for purifying water, and on the completion of the duty enjoined, will return to their proper station after each visit.

LeWald, Leon T., capt., orders directing him to proceed from Columbus Barracks, Ohio, to the Philippines for duty, April 5, is amended as to direct him to sail from San Francisco, Sept. 5, 1910, instead.

Mudd, Leo C., 1st lieut., M. R. C., ordered to active duty and will proceed to Jefferson Barracks, Mo., for station and duty.

## Medical Corps of the Navy

Changes for the week ended March 12, 1910:

Halsey, W. H., acting asst.-surgeon, appointed Acting Assistant-Surgeon from March 1, 1910.

Wieber, F. W. F., surgeon, ordered home to wait orders.

Brown, E. M., P. A. surgeon, orders of February 28, to duty at the Naval Station, Guam, M. I., revoked; ordered to the Naval Hospital, Mare Island, Cal., for treatment.

Eaton, W. E., appointed Acting Assistant Surgeon from March 7, 1910.

Halsey, W. H., acting asst.-surgeon, ordered to duty at the Naval Hospital, Norfolk, Va.

## Public Health and Marine-Hospital Service

Changes for the week ended March 9, 1910:

White, J. H., surgeon, directed to proceed to Quarantine, La., on special temporary duty.

Lumsden, L. L., P. A. surgeon, granted 5 days' leave of absence from March 8, 1910, under Paragraph 191, Service Regulations.

Billings, W. C., P. A. surgeon, granted 3 days' leave of absence en route to station.

Robinson, D. E., P. A. surgeon, granted 4 days' leave of absence from March 3, 1910, on account of sickness.

King, W. W., P. A. surgeon, on being relieved by Passed Assistant Surgeon M. W. Glover, directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

Wille, C. W., P. A. surgeon, directed to attend the opening of a National Campaign on Oral Hygiene, to be held in Cleveland, Ohio, March 18, 1910.

Glover, M. W., P. A. surgeon, directed to proceed to San Francisco, for duty, relieving Passed Assistant Surgeon W. W. King.

Spratt, R. D., P. A. surgeon, on being relieved by Acting Assistant Surgeon J. A. Moncure, directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

Hotchkiss, S. C., asst.-surgeon, relieved from duty at San Francisco, and directed to proceed to Honolulu, Hawaii, and report to the Chief Quarantine Officer for duty.

Branham, H. M., acting asst.-surgeon, granted 3 days' leave of absence from March 8, 1910.

Bullard, John T., acting asst.-surgeon, granted 30 days' leave of absence from March 1, 1910.

Earl, F. D., acting asst.-surgeon, granted 5 days' leave of absence from March 7, 1910.

Frissell, C. M., acting asst.-surgeon, granted 20 days' leave of absence from March 6, 1910.

Moncure, J. A., acting asst.-surgeon, transferred from duty at Gulf Quarantine, Miss., to Brunswick Quarantine Station, Ga.

Tuttle, Jay, acting asst.-surgeon, leave of absence granted Jan. 24, 1910, amended to read 30 days' leave from Feb. 25, 1910, and 22 days' leave, without pay, from April 1, 1910.

Wetmore, W. O., acting asst.-surgeon, granted 7 days' leave of absence, Feb. 10 and Feb. 16 to 21, 1910, under Paragraph 210, Service Regulations.

Board of medical officers convened to meet at the Marine Hospital, Key West Fla., March 7, 1910, for the purpose of conducting a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon E. K. Sprague, chairman; Acting Assistant Surgeon S. D. W. Light, recorder.

# Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

## An Interesting Contribution to the Study of Lodge Practice

The following editorial article taken from the *Mid-West Eagle* of February 15 will interest all who have followed the discussion on lodge and contract practice. The *Mid-West Eagle* is the official organ of the Fraternal Order of Eagles for the middle west:

### AERIE PHYSICIAN PROBLEM

### The Grand Worthy President Has a New Proposition for the Smaller Aeries

One of the difficult problems has been the aerie physician. In cities where there is a large membership it is easy to secure doctors, for the pay is good. But in small towns where the membership is small and where the doctor would practically have to give up many of his regular customers and take care of his whole family for two dollars a year the job does not look so inviting. Many inquiries have been made on the solution of the matter. Medical societies have taken action against their members serving. As a result the Grand Worthy President has sent out the following circular, which explains itself:

"Dear Sirs and Brothers:—In certain parts of the country, we are having trouble with state, county and city medical associations, which refuse to permit their members to serve aeries in the capacity of aerie physician, as defined by our laws. This fraternity has no desire for controversy with any organization or members of the medical profession; but one of the important beneficial features of the Fraternal Order of Eagles is to supply the services of a physician to our members and their families. To disregard or not to provide for this important consideration would be to slight one of the basic ideas on which this organization is founded.

"There are, at the present time, aeries located in different cities and towns of the United States, which are unable to procure the services of a physician for aerie physician purposes, except at such outrageous terms as will ultimately, if acceded to, bankrupt such aeries.

"I have, therefore, determined to prepare a list of physicians who are competent to serve as aerie physician, who desire to change locality, and who will, if given a favorable contract by an aerie, move to the communities in which such aeries are located.

"Will you kindly read this communication at your next aerie meeting and ascertain if any members know of any physician qualified in every way to serve as aerie physician, who desires to change his place of residence? Will you also ask your aerie physician if he knows the names of any physicians who have the requisite qualifications and might wish to be considered by me? If your aerie is having difficulty in securing an aerie physician under favorable contract terms, because of the attitude of the medical association, will you kindly communicate with me at once?

"Of course, you understand that these physicians must be members of the Fraternal Order of Eagles.

"Trusting that the information received will enable us to solve this vexing question, I remain,

Yours fraternally in L., T., J. and E.,
Frank E. Hering,
Grand Worthy President."

Probably no one of the so-called fraternal orders has as objectionable methods for the selection and payment of medical men as the Fraternal Order of Eagles. The communication given above from the "Grand Worthy President" is ample evidence that physicians in neighborhoods in which local organizations of this order are located are rapidly coming to appreciate the specious nature of the inducements offered to physicians by the order. The president recognizes the fact that it is impossible for his organization to secure the services of resident physicians on the terms offered. He therefore proposes as a remedy to supply cities and towns "unable to secure the services of a physician for aerie physician purposes . . . with a list of physicians . . . who desire to change localities (?) and who will, if given a favorable contract, move to the community in which such aeries are located."

One can readily imagine the scientific ability of the physician who is willing to move to a new location in order to secure $2.00 per year per family as a reward for his services. Equally interesting are Grand Worthy President Hering's admissions that there is great difficulty in securing physicians willing to serve "except at such outrageous terms as will ultimately, if adhered to, bankrupt such aeries."

This is the equivalent to an official statement that this organization cannot pay physicians a decent price for their services without becoming bankrupt. If it is true that this organization can only exist by paying pauper wages to its physicians, then we can see no reason why it should not go into bankruptcy, and the sooner the better.

Another encouraging point is that the above letter shows that the organized profession is beginning to exert a real influence. We hope that every county society will take this matter up and will see that decent prices are insisted on for lodge work done for any fraternal order, or, better still, that it will persuade the entire medical population of the town not to make contracts for wholesale services that can be farmed out at retail for the benefit of a "fraternal" organization.

A correspondent also sends a copy of President Hering's circular letter and a copy of the constitution and by-laws which specifies in article 13 the duties of the "aerie physician." Section 1 provides that the aerie physician shall attend, prescribe for and perform such surgical work as may be necessary for all members of the aerie in good standing and their respective families, and that the words family or members of a family shall be understood as meaning a member, his wife and minor children and such other persons as reside with and are dependent on and are actually supported by the member. Such a definition would include not only a member's immediate family but all dependents living with him, such as father and mother, father-in-law and mother-in-law, etc. The physician is also required to attend all meetings of the aerie and report the condition of all sick members under his care. For these services he is paid the magnificent sum of $2.00 a year for each member and is subject to a fine of $1.00 whenever he fails to make a report. Section 9 of the same article provides that when any aerie has obtained a membership of over 600 it may elect two physicians, and if its membership exceeds 600 it may elect an additional physician for each 300 members or major fraction thereof. Consequently, $600, or $50 a month, would seem to be the average amount made out of this sort of practice. As 300 families would be equivalent to about 1,200 people the doctor would consequently be required to furnish all needed professional services, both medical and surgical, for 1,200 people for one year for $50 a month. Under the circumstances, it is not strange that the Fraternal Order of Eagles has found it necessary to import physicians to do its work. Unless the order has some better excuse for existence than acting as middleman between physicians and patients and furnishing medical service for an entire family at the rate of four cents a week, its further existence is not warranted. The terms offered are such as no self-respecting physician could afford to accept.

## POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

### Eighth Month—First Weekly Meeting

Subject for the Month: Pharmacology and Therapeutics

Definition: Relation of pharmacology to (a) chemistry, (b) physiology and anatomy, (c) pathology and clinical medicine.

Nature of Pharmacologic Action: Conditions necessary for (a) chemical, (b) physical changes in cells. Evidences of chemical changes, of physical changes. Dependence of pharmacologic action on chemic structure of drug. Results of pharmacologic action, stimulation, excitation, irritation, depression, exhaustion, fatigue, paralysis, death.

Selective action, dependent on (a) structure and concentration of drug, (b) structure and function of cell. Pharmacologic classification of drugs: (a) locally acting drugs, irritants and demulcents; (b) protoplasmic poisons; (c) muscle-nerve poisons.

ACTIONS AND EFFECTS OF DRUGS: Local, remote, systemic, direct, indirect, reflex, immediate, late or secondary.

CONDITIONS MODIFYING THE ACTIONS OF DRUGS: Size and weight; age, rules for dosage for children, old age; sex, pregnancy, lactation; pathologic conditions, fever, diarrhea, etc. Synergism and antagonism. Time of administration of drug, preparation used, rate of absorption and eliminiation, disintoxication. Idiosyncrasy, susceptibility, cumulative action, tolerance, habitation.

METHODS OF ADMINISTRATION OF DRUGS: Local, preparations, effects. Oral, rectal. Hypodermic, preparations, advantages; intramuscular, subarachnoid, intracerebral and intravenous injections. Inunctions. Inhalations.

UNTOWARD EFFECTS OF DRUGS.

PHARMACOLOGIC AND THERAPEUTIC ACTIONS OF DRUGS

I. DRUGS ACTING ON NERVOUS AND MUSCULAR SYSTEMS: A. Drugs acting on muscles. Irritability, excitability and capacity for work increased or diminished. B. Drugs acting on peripheral endings of motor nerves. 1. Paralyzing nerve ends. 2. Stimulating nerve ends. C. Drugs acting on peripheral endings of sensory nerves. 1. Stimulating nerve ends. 2. Depressing nerve ends. D. Drugs acting on nerve trunks. Toxic effects, peripheral neuritis. E. Drugs acting on spinal cord. 1. Increasing irritability of anterior cornua. 2. Depressing anterior cornua. F. Drugs acting on the brain. 1. On motor cells of cortex (a) depress, (b) excite. 2. General cerebral stimulants. 3. General cerebral depressants (a) hypnotics, (b) narcotics, (c) anesthetics.

REFERENCE BOOKS FOR THE EIGHTH MONTH

Sollmann: Pharmacology. White and Wilcox: Materia Medica, Pharmacology and Therapeutics. Brunton: The Action of Medicines. Cushny: Pharmacology. Wood: Therapeutics. Hare: Practial Therapeutics. Ortner: Treatment of Internal Diseases. Forchheimer: Prophylaxis and Treatment of Internal Diseases. Publications of the A. M. A. and the Council on Pharmacy and Chemistry: New and Nonofficial Remedies, The Propaganda for Reform in Proprietary Medicines, The Broader Aims of the Council on Pharmacy and Chemistry, Physicians' Manual of the U. S. Pharmacopeia and the National Formulary.

## *Marriages*

JOHN K. TRAIN, M.D., to Miss Lilla Comer, both of Savannah, in January.

A. V. RUTLEDGE, M.D., to Mrs. E. P. Erler, both of Denison, Texas, February 24.

WILLIAM A. LURIE, M.D., Chicago, to Miss Mabel L. Mayer of New Orleans, March 9.

THOMAS A. SPEIDEL, M.D., to Miss Marie Houghton, both of Felicity, Ohio, February 27.

JOHN TILDEN HARBOLD, M.D., Yorkana, Pa., to Miss Helen Presser, of Philadelphia, March 1.

FRANK M. LYNN, M.D., Peru, Ind., to Miss Myrtle Work, of New Richmond, Ind., February 28.

JULIUS C. LEHARDY, M.R.C., U. S. Army, to Miss Dorothea Clendenin, at Iloilo, P. I., Dec. 11, 1909.

RAYMOND VICTOR HARRIS, M.D., Savannah, to Miss Flora Middlebrooks, of Athens, Ga., January 6.

JOHN MONROE SIGMAN, M.D., Savannah, to Miss Leila K. Richbourg, of Bloomingdale, Ga., February 16.

WILLIAM OLIVER HOWARD, M.D., Elmodel, Ga., to Miss Sarah N. McGoogan, of Shannon, N. C., February 23.

JOSIAH SLICER BOWEN, M.D., Mount Washington, Md., to Mrs. Elizabeth A. Buffington, at Baltimore, February 28.

RONAYNE DE KIRKBRIDE CLEBORNE, M.D., Cambridge, Mass., to Miss Mary Mossman Thomas, at Philadelphia, March 3.

MADGE PATTON HAWKINS, M.D., Terre Haute, Ind., and William Wallace Stephens, of Memphis, Tenn., at St. Louis, February 26.

JOSEPH E. KELTNER, M.D., El Paso, Texas, to Miss Daisy Engman, of Louisiana, Mo., at Albuquerque, N. M., February 14.

## *Deaths*

**Uzziel Ogden, M.D.** Victoria University, Coburg, Ont., 1855; a student of Dr. John Rolfe, and licensed to practice by the Upper Canada Medical Board in 1849; professor of materia medica and therapeutics in the Toronto School of Medicine from 1853 to 1870; professor of obstetrics and gynecology until 1887, and professor of gynecology in the Medical Faculty of the University of Toronto until 1903 when he completed fifty years as a teacher of medicine, and for three years dean of the faculty; founder, in 1876, and for many years editor-in-chief of the *Canadian Practitioner and Review;* died at his home in Rosedale, Toronto, January 4, from paralysis, aged 82.

**Jules Lazard, M.D.** Tulane University, New Orleans, 1898; a member and formerly treasurer of the Louisiana State Medical Society, and the New Orleans Medical Society; for six years assistant to the professor of surgery in his alma mater; professor of physiology in the New Orleans College of Pharmacy; visiting surgeon to the Charity Hospital and Touro Infirmary; consulting surgeon to the Presbyterian Hospital; died in a sanitarium in Biloxi, Miss., March 4, from heart disease, aged 34.

**Martin Van Buren Miller, M.D.** Medical College of Alabama, Mobile, 1872; College of Physicians and Surgeons, New York City, 1878; for twelve years president of the Lauderdale County (Miss.) Medical Society; for many years president of the board of health; for eighteen years a member and for sixteen years president of the board of trustees of the Meridian public schools; died at his home in Meridian, February 21, from cholelithiasis, aged 59.

**Edward C. Crum, M.D.** Miami Medical College, Cincinnati, 1870; a member of the Ohio State Medical Association; died at his home in Dayton, March 4, from cerebral hemorrhage, aged 62. The Montgomery County Medical Society, at a special meeting, adopted resolutions expressing a deep sense of the loss sustained by the society in the death of Dr. Crum.

**Louis Edmond Magnenat, M.D.** University of Texas, Galveston, 1895; formerly a member of the American Medical Association; a member of the State Medical Association of Texas; demonstrator of surgery, chemistry and physics, and histology and pathology in his alma mater; died at his home in Amarillo, February 24, from pneumonia, aged 41.

**William Everrette Dempsey, M.D.** University of Louisville, 1897; of Charleston, W. Va.; formerly a member of the American Medical Association; a member of the West Virginia State Medical Association; formerly secretary of the Fayette County Medical Society; died near Jacksonville, Fla., March 2, from pulmonary tuberculosis, aged 36.

**Alexander J. Dallas, M.D.** New York University, New York City, 1844; a member of the Medical Society of the State of New York; said to have been the oldest practitioner of Syracuse; in 1855, president of the Onondaga County Medical Society; and twice coroner of the county; died at his home, March 4, from heart disease, aged 91.

**William Stuart Patterson, M.D.** Jefferson Medical College, 1888; of Pittsburg; physician to the Pittsburg Hospital for Children; a member of the American Medical Association and the American Academy of Medicine; died March 2, in Southern Pines, N. C., where he had gone in hope of regaining his health, aged 44.

**James Newton Matthews, M.D.** Missouri Medical College, St. Louis, 1878; the first matriculant of the University of Illinois; a member of the Illinois State Medical Society; a poet of more than local repute, and a beloved physician of Effingham county; died at his home near Mason, March 7, from pneumonia, aged 57.

**Charles B. Hawley, M.D.** Cincinnati College of Medicine and Surgery, 1871; a member of the Medical Society of the State of New York, and of the pension examining board of Gouverneur; and coroner of St. Lawrence county for several years; died at his home in Gouverneur, February 28, from heart disease, aged 62.

**Leroy S. Hopkins, M.D.** Miami Medical College, Cincinnati, 1860; (license, years of practice, Ill., 1878); of Roanoke; for 65 years a practitioner of Illinois; a veteran of the Civil War; while fishing in Biloxi Bay, Miss., February 24, was seized with apoplexy, fell overboard, and was found dead, aged 71.

**James M. Ayres, M.D.** Medical College of Ohio, Cincinnati, 1882; formerly of Hamilton, Ohio; a veteran of the Civil War; consul to Para, Brazil, and later to Rosario, Argentine Republic; died at his home in Johnson City, Tenn., February 28, from pneumonia, aged 70.

**James Sykes, M.D.** College of Physicians and Surgeons, Keokuk, 1864; of Beverly, Ill.; surgeon of volunteers during the Civil War; and then acting assistant surgeon in the army until 1868; died at the home of his daughter, in Mercedes, Texas, March 3, from cerebral hemorrhage, aged 65.

**Arthur Theakston, M.R.C.S.,** England; a pioneer of British Columbia, Alaska and Yukon; for many years mining recorder of Circle City, Alaska, and the first to suggest a mining code for the Yukon territory; died January 24, in Dawson, Yukon, from senile debility, aged 72.

**Christian C. Miller, M.D.** Western Reserve University, Cleveland, 1871; of Altoona, Pa.; manager of the Miller Medical Institute in that place; a member of the Medical Society of the State of Pennsylvania; died in Orlando, Fla., March 2, from rheumatism, aged 63.

**John H. Simms, M.D.** Eclectic Medical College of Pennsylvania, Philadelphia, 1856; a practitioner of Wilmington, Del., since 1854; surgeon of volunteers during the Civil War; a local preacher of the Methodist Episcopal Church; died at his home, March 4, aged 81.

**George Edwin Ehle, M.D.** Hahnemann Medical College, Chicago, 1882; of Grand Rapids, Mich.; at one time physician to the State House of Correction, Ionia; died in the University of Michigan Hospital, Ann Arbor, February 27, from chronic nephritis, aged 61.

**James H. Bean, M.D.** Jefferson Medical College, 1877; for several terms physician of Pocatello and Bannock county, Idaho; a member of the Idaho State Medical Society; died in the Angelus Hospital, Los Angeles, Cal., February 26, from uremia, aged 53.

**Walter B. Purcell, M.D.** Gross Medical College, Denver, 1890; of Tucson, Ariz.; a member of the American Medical Association; while on his way from Tucson to Twin Buttes, February 27, was crushed under his automobile and instantly killed, aged 41.

**William Gleason Stone, M.D.** Bellevue Hospital Medical College, 1878; from 1883-1893, assistant superintendent of the Illinois Northern Hospital for the Insane, Elgin; died at his home in Montclair, N. J., Nov. 14, 1909, from tuberculosis, aged 52.

**W. C. D. Bond, M.D.** Medical College of Ohio, Cincinnati, 1857; for a number of years a Baptist clergyman; a member of the local board of pension examiners of Parkersburg, W. Va.; died at the home of his son in Wheeling, February 27, aged 75.

**George Lucius Beardsley, M.D.** Bellevue Hospital Medical College, 1873; for 35 years practitioner of Derby, Conn., and city health officer; died in the New Haven City Hospital, February 26, from chronic nephritis and pneumonia, aged 61.

**Isaac J. Daniel, M.D.** College of Physicians and Surgeons, Baltimore, 1885; formerly of Battle Creek, Neb.; died at his home in Lamont, Okla., Dec. 8, 1909, from general carcinoma, for which repeated operations had been made, aged 57.

**Robert Henry Golder, M.D.** New York University, New York City, 1851; a member of the Medical Society of the State of New York; for fifty-nine years a practitioner of Rossville, Staten Island; died at his home, March 6, aged 89.

**Gustave Liebermann, M.D.** New York University, 1887; of Brooklyn; one of the founders and first superintendent of the Lebanon Hospital, New York City; died in that institution, February 28, after a surgical operation, aged 55.

**Jonas D. Johnson, M.D.** Eclectic Medical Institute, Cincinnati, 1878; of Wharton, Ohio; died at his home, February 26, from the effects of a gunshot wound of the head, self-inflicted, it is believed with suicidal intent, aged 64.

**Augustus Frederick Wohlfarth, M.D.** (license, Ill., 1882); died at his home in Grantwood, N. J., Nov. 28, 1909, from the effects of a gun-shot wound of the head, self-inflicted it is believed with suicidal intent, aged 50.

**James Wallace Milliken, M.D.** New York University, New York City, 1877; a member of the Medical Society of the State of California; died at his home in Mendocino, May 27, 1909, from angina pectoris, aged 58.

**Thomas A. Enos, M.D.** Jefferson Medical College, 1879; division surgeon of the Pennsylvania System at Townsend, Del.; died at his home February 27, from typhoid fever, complicating pneumonia, aged 55.

**James Levi Day, M.D.** Washington University, St. Louis, 1873; Bellevue Hospital Medical College, 1879; a veteran of the Civil War; died at his home in St. Louis, March 1, from cerebral hemorrhage, aged 69.

**Lewis Alfred Flexer, M.D.** University of Michigan, Ann Arbor, 1879; formerly a member of the Medical Society of the State of Pennsylvania; died at his home in Delano, March 5, from erysipelas, aged 57.

**Louis B. Hughes, M.D.** Jefferson Medical College, 1902; of Hebron, Neb.; died on a Santa Fe train near La Junta, Colo., while en route to his home from California, February 18, from nephritis, aged 35.

**George W. Clemson, M.D.** Starling Medical College, Columbus, Ohio, 1874; formerly a member of the Ohio State Medical Association; died at his home in Thornville, March 7, from tuberculosis, aged 61.

**Junius Tompkins, M.D.** Missouri Medical College, St. Louis, 1855; a member of the Missouri State Medical Association; died at his home in Canton, Sept. 18, 1909, from cancer of the rectum, aged 75.

**Ottoway T. Fields, M.D.** Meharry Medical College, Nashville, 1893; one of the organizers of Provident Hospital, St. Louis; died at his home in that city, March 1, from cirrhosis of the liver, aged 43.

**Charles W. McMillan, M.D.** University of Nashville, 1900; a member of the Oklahoma State Medical Association; formerly of Harrison, Ark.; died at his home in Ada, Okla., February 23, aged 40.

**Henry Clay Smith, M.D.** University of Nashville, 1875; a member of the Kentucky State Medical Association; died at his home near Allen Springs, March 1, from pneumonia, aged 66.

**James Mackeand Cochrane, M.D.** University of Toronto, 1884; L.R.C.P., London, 1899; a fellow of the Medical Society of London, where he had resided since 1890, died recently at his home.

**John M. Davis, M.D.** Physio-Medical College of Ohio, Cincinnati, 1857; a veteran of the Mexican and Civil wars; died recently at his home near Staunton, Ill., from senile debility, aged 84.

**Luther Ward Alger, M.D.** Jefferson Medical College, 1861; for forty years a practitioner of LaCrosse, Wis.; died at his home in Everett, Wash., February 20, from heart disease, aged 72.

**Alonzo D. Birchard, M.D.** Bellevue Hospital Medical College, 1864; for 44 years a practitioner of Cambridge Springs, Pa.; died at his home, February 23, from angina pectoris, aged 73.

**Richard M. Pancoast, M.D.** Jefferson Medical College, 1845; for more than half a century a practitioner of Philadelphia; died at the Old Man's Home in that city, March 3, aged 85.

**Thomas Coates Stockton, M.D.** Bellevue Hospital Medical College, 1868; a pioneer practitioner of San Diego, Cal.; died at his home in that city, March 1, from paralysis, aged 72.

**Adam Overfield, M.D.** University of Michigan, Ann Arbor, 1870; for more than thirty years a resident of Houghton, Mich.; died at his home in Toledo, Ohio, February 27.

**Mary E. McCarty, M.D.** Homeopathic Medical College of Missouri, St. Louis, 1890; died recently at her home in St. Louis, and was buried in Boonville, Mo., March 4.

**Fred C. Abbott, M.D.** University of Louisville, 1908; an intern in the Springfield (Ohio) City Hospital; died in that institution, March 5, from typhoid fever, aged 29.

**Franklin T. Cook, M.D.** University of Tennessee, Nashville, 1881; for 33 years a practitioner of Taylor, Texas; died in Phoenix, Ariz., March 2, from nephritis, aged 57.

**Israel S. Brault, M.D.** Ecole de Médecine et de Chirurgie, Montreal, 1890; of St. Albans, Vt.; died in Montreal, February 1, from lobar pneumonia, aged 48.

**Samuel Smith Brecht, M.D.** Pennsylvania Medical College, Gettysburg, 1859; died at his home in Manheim, Pa., March 5, from cerebral hemorrhage, aged 79.

**Charles W. Fall, M.D.** Central College of Physicians and Surgeons, Indianapolis, 1889; died at his home in Fowler, Ind., February 24, from nephritis, aged 51.

**George Madison Cooper, M.D.** Hahnemann Medical College, Philadelphia, 1895; died at his home in Bryn Athyn, Pa., March 2, from heart disease, aged 36.

**Mandeville Thum, M.D.** Kentucky School of Medicine, Louisville, 1881; of Louisville; died in the Louisville City Hospital, March 4, from pneumonia, aged 52.

**Robert Clay Henderson, M.D.** Memphis Hospital Medical College, 1902; was shot and killed in a family feud near Zion, Miss., Nov. 28, 1909, aged 42.

**John A. Craighead, M.D.** Western Reserve University, Cleveland, 1877; died at his home in East End, Pittsburg, March 3, from heart disease, aged 57.

**Robert Emmett Graham, M.D.** University of Missouri, Columbia, 1894; died in his office in Columbia, March 3, from cerebral hemorrhage, aged 40.

**Franklin Buckwater Richards** (license, Ind., 1897); for sixty-two years a practitioner; died at his home in Taylorville, Ind., recently, aged 85.

**Stephen R. Cook, M.D.** University of Alabama, Mobile, 1890; of Epes, Ala.; died at an infirmary in Birmingham, Ala., February 26, aged 41.

**Frank Rossiter Porter, M.D.** New York University, 1882; of New Windsor, Colo.; died in a hospital in Loveland, Colo., March 3, aged 50.

**Joseph B. Sargent, M.D.** Homeopathic Hospital College, Cleveland, 1875; died at his home in Tyrone, N. Y., Oct. 4, 1909, aged 58.

**Harry E. Baine, M.D.** Hospital College of Medicine, Louisville, 1875; died at his home in Waco, Texas, March 1, aged 55.

**Elton E. Weary, M.D.** Michigan; died at his home in Cleveland, Ohio, Aug. 4, 1909, from tuberculosis, aged 51.

**Phillip Rosenberg, M.D.** Russia; died in Los Angeles, Cal., Oct. 28, 1909, from heart disease, aged about 59.

**John Wilbur Roberts, M.D.** died at his home in Alameda, Cal., March 26, 1909, from uremia, aged 74.

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# *Society Proceedings*

## COMING MEETINGS

Alabama, Medical Association of State of, Mobile, April 19-22.
Am. Laryn., Rhin. and Otol. Society, Washington, D. C., April 28-30.
Arizona, Medical Association of, Phoenix, April 20-21.
California, Medical Society of State of, Sacramento, April 19-21.
Conf. State and Prov. Bds. of Health, Washington, April 28-29.
District of Columbia, Medical Association of, Washington, April 26.
Florida, Medical Association of, Jacksonville, April 6-8.
Georgia, Medical Association of, Athens, April 20-23.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 26-28.
Mississippi State Medical Association, Oxford, April 12.
South Carolina Medical Association, Laurens, April 19-21.
Tennessee State Medical Association, Memphis, April 12-14.

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## CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION AND OF THE COMMITTEE ON MEDICAL LEGISLATION OF THE AMERICAN MEDICAL ASSOCIATION

*Held in Chicago, Feb. 28—March 2, 1910*

(Concluded from page 898)

### TUESDAY AFTERNOON SESSION

### Some of the Constitutional Aspects of Medical Licensure

PROF. ERNEST FREUND, Professor of Jurisprudence and Public Law, University of Chicago: The serious difficulty of the licensing system lies in the details of its working out and relates both to its scope and its requirements. The problem has generally been treated as one of legislative policy and statutory construction. Our courts have found it possible to construe the term "practice of medicine" in such a way as to exclude osteopathy, optometry, massage and Christian science treatment. In a great many cases the legislature has inserted liberal exceptions into the statute, especially so with regard to mental treatment. In other cases, and particularly with regard to osteopathy, it has prescribed special tests of qualifications. There is a double objection to a licensing law too sweeping in its terms, and not sufficiently regardful of simpler methods of treatment. One objection is that it will give color to the charge or suspicion of monopolistic exclusiveness; the other is that it will lead to exemption by judicial interpretation, or if the terms of the statute make that possible, to a breaking down of the law through non-enforcement, and the consequent toleration of a class of outlawed practitioners who might with advantage to the community be given a status of legal recognition. To discover the sound principles of medical practice legislation, a study of the history of legislation is as important as a study of judicial decisions. Under prevailing conditions in this country the preponderance of argument is in favor of the maintenance of the license system, and sound principle requires a careful definition of licensed practice, and its protection as a right of property. The whole matter of qualification, differentiation and exemption, on the other hand, is one in which there must be much of positive or conventional regulation, and in which conclusions must be reached mainly on the basis of experience, expediency and the compromise between conflicting views.

### Uniform State Laws

PROF. ROSCOE POUND, University of Chicago, discussed the value of uniform state laws regulating the practice of medicine.

### Importance to the Public of the Proper Enforcement of Medical License Laws

HON. HARRY OLSON, Chief Justice Municipal Court, Chicago: The American Medical Association, through its Council on Medical Education and its Committee on Medical Legislation, is rendering the public most important service by its efforts to secure a uniform and high standard of medical education and licensure in all the states. The intelligent and thoughtful layman is encouraged by the progress made by the association in this regard since 1904. The wonderful progress of medicine in the last thirty years has increased the need of a thorough education of those who contemplate its practice. The machinery to enforce the medical license laws should not be in the board of health. That body has its hands full with the questions of public sanitation, quarantine, and occasionally, it is said, politics. There should be a separate body composed in the majority of medical men, but it would do no harm to have a lawyer on it which should control not only the licensing of physicians, but the requirements of the accepted medical colleges and the requirements of preliminary education for entrance on the study of medicine as well. This body should have power on complaint and after giving due notice to hear evidence as a court and to determine whether a license once granted should be revoked for conduct involving immorality in the practice of medicine, and such offenses as dishonesty, conviction of crime, addiction to drug habits, etc. The power the Supreme Court of this state has to disbar a lawyer on a proper showing made to him by the state's attorney, the bar association, or an individual, after notice and after a hearing of his dishonesty, is a tremendous factor in purifying the legal profession and in keeping its dishonest members within bounds. The licensed lawyers who were convicted during the ten years that I acted as a prosecutor in the criminal courts of Cook county were promptly disbarred by the Supreme Court. The physicians who served in the penitentiary promptly on their discharge resumed the practice of medicine, even though the crimes they committed involved falsification of vital statistics, and in one case, though the indictment was based on the charge of conspiracy to obtain money by false pretenses, the court and jury were of the belief that a murder had been committed. Without examining the law and decisions of the courts of this state, it would seem that the local medical profession had been derelict in the matter of its failure to present evidence to the state board of health against those members of their profession licensed in the state who ought to have forfeited their right to practice by unprofessional or dishonorable conduct.

The law of this state permitting the revocation of physicians' licenses for dishonorable conduct only applies to those physicians whose licenses were issued since 1899. As the law now stands, those licenses issued prior to 1899 may not be revoked. This defect in the law should be amended at the next session of the legislature, so as to apply to all physicians who are permitted to practice their profession in this state, no mat-

**Leroy S. Hopkins, M.D.** Miami Medical College, Cincinnati, 1860; (license, years of practice, Ill., 1878); of Roanoke; for 65 years a practitioner of Illinois; a veteran of the Civil War; while fishing in Biloxi Bay, Miss., February 24, was seized with apoplexy, fell overboard, and was found dead, aged 71.

**James M. Ayres, M.D.** Medical College of Ohio, Cincinnati, 1882; formerly of Hamilton, Ohio; a veteran of the Civil War; consul to Para, Brazil, and later to Rosario, Argentine Republic; died at his home in Johnson City, Tenn., February 28, from pneumonia, aged 70.

**James Sykes, M.D.** College of Physicians and Surgeons, Keokuk, 1864; of Beverly, Ill.; surgeon of volunteers during the Civil War; and then acting assistant surgeon in the army until 1868; died at the home of his daughter, in Mercedes, Texas, March 3, from cerebral hemorrhage, aged 65.

**Arthur Theakston, M.R.C.S.,** England; a pioneer of British Columbia, Alaska and Yukon; for many years mining recorder of Circle City, Alaska, and the first to suggest a mining code for the Yukon territory; died January 24, in Dawson, Yukon, from senile debility, aged 72.

**Christian C. Miller, M.D.** Western Reserve University, Cleveland, 1871; of Altoona, Pa.; manager of the Miller Medical Institute in that place; a member of the Medical Society of the State of Pennsylvania; died in Orlando, Fla., March 2, from rheumatism, aged 63.

**John H. Simms, M.D.** Eclectic Medical College of Pennsylvania, Philadelphia, 1856; a practitioner of Wilmington, Del., since 1854; surgeon of volunteers during the Civil War; a local preacher of the Methodist Episcopal Church; died at his home, March 4, aged 81.

**George Edwin Ehle, M.D.** Hahnemann Medical College, Chicago, 1882; of Grand Rapids, Mich.; at one time physician to the State House of Correction, Ionia; died in the University of Michigan Hospital, Ann Arbor, February 27, from chronic nephritis, aged 61.

**James H. Bean, M.D.** Jefferson Medical College, 1877; for several terms physician of Pocatello and Bannock county, Idaho; a member of the Idaho State Medical Society; died in the Angelus Hospital, Los Angeles, Cal., February 26, from uremia, aged 53.

**Walter B. Purcell, M.D.** Gross Medical College, Denver, 1890; of Tucson, Ariz.; a member of the American Medical Association; while on his way from Tucson to Twin Buttes, February 27, was crushed under his automobile and instantly killed, aged 41.

**William Gleason Stone, M.D.** Bellevue Hospital Medical College, 1878; from 1883-1893, assistant superintendent of the Illinois Northern Hospital for the Insane, Elgin; died at his home in Montclair, N. J., Nov. 14, 1909, from tuberculosis, aged 52.

**W. C. D. Bond, M.D.** Medical College of Ohio, Cincinnati, 1857; for a number of years a Baptist clergyman; a member of the local board of pension examiners of Parkersburg, W. Va.; died at the home of his son in Wheeling, February 27, aged 75.

**George Lucius Beardsley, M.D.** Bellevue Hospital Medical College, 1873; for 35 years practitioner of Derby, Conn., and city health officer; died in the New Haven City Hospital, February 26, from chronic nephritis and pneumonia, aged 61.

**Isaac J. Daniel, M.D.** College of Physicians and Surgeons, Baltimore, 1885; formerly of Battle Creek, Neb.; died at his home in Lamont, Okla., Dec. 8, 1909, from general carcinoma, for which repeated operations had been made, aged 57.

**Robert Henry Golder, M.D.** New York University, New York City, 1851; a member of the Medical Society of the State of New York; for fifty-nine years a practitioner of Rossville, Staten Island; died at his home, March 6, aged 89.

**Gustave Liebermann, M.D.** New York University, 1887; of Brooklyn; one of the founders and first superintendent of the Lebanon Hospital, New York City; died in that institution, February 28, after a surgical operation, aged 55.

**Jonas D. Johnson, M.D.** Eclectic Medical Institute, Cincinnati, 1878; of Wharton, Ohio; died at his home, February 26, from the effects of a gunshot wound of the head, self-inflicted, it is believed with suicidal intent, aged 64.

**Augustus Frederick Wohlfarth, M.D.** (license, Ill., 1882); died at his home in Grantwood, N. J., Nov. 28, 1909, from the effects of a gun-shot wound of the head, self-inflicted it is believed with suicidal intent, aged 50.

**James Wallace Milliken, M.D.** New York University, New York City, 1877; a member of the Medical Society of the State of California; died at his home in Mendocino, May 27, 1909, from angina pectoris, aged 58.

**Thomas A. Enos, M.D.** Jefferson Medical College, 1879; division surgeon of the Pennsylvania System at Townsend, Del.; died at his home February 27, from typhoid fever, complicating pneumonia, aged 55.

**James Levi Day, M.D.** Washington University, St. Louis, 1873; Bellevue Hospital Medical College, 1879; a veteran of the Civil War; died at his home in St. Louis, March 1, from cerebral hemorrhage, aged 69.

**Lewis Alfred Flexer, M.D.** University of Michigan, Ann Arbor, 1879; formerly a member of the Medical Society of the State of Pennsylvania; died at his home in Delano, March 5, from erysipelas, aged 57.

**Louis B. Hughes, M.D.** Jefferson Medical College, 1902; of Hebron, Neb.; died on a Santa Fe train near La Junta, Colo., while en route to his home from California, February 18, from nephritis, aged 35.

**George W. Clemson, M.D.** Starling Medical College, Columbus, Ohio, 1874; formerly a member of the Ohio State Medical Association; died at his home in Thornville, March 7, from tuberculosis, aged 61.

**Junius Tompkins, M.D.** Missouri Medical College, St. Louis, 1855; a member of the Missouri State Medical Association; died at his home in Canton, Sept. 18, 1909, from cancer of the rectum, aged 75.

**Ottoway T. Fields, M.D.** Meharry Medical College, Nashville, 1893; one of the organizers of Provident Hospital, St. Louis; died at his home in that city, March 1, from cirrhosis of the liver, aged 43.

**Charles W. McMillan, M.D.** University of Nashville, 1900; a member of the Oklahoma State Medical Association; formerly of Harrison, Ark.; died at his home in Ada, Okla., February 23, aged 40.

**Henry Clay Smith, M.D.** University of Nashville, 1875; a member of the Kentucky State Medical Association; died at his home near Allen Springs, March 1, from pneumonia, aged 66.

**James Mackeand Cochrane, M.D.** University of Toronto, 1884; L.R.C.P., London, 1899; a fellow of the Medical Society of London, where he had resided since 1890, died recently at his home.

**John M. Davis, M.D.** Physio-Medical College of Ohio, Cincinnati, 1857; a veteran of the Mexican and Civil wars; died recently at his home near Staunton, Ill., from senile debility, aged 84.

**Luther Ward Alger, M.D.** Jefferson Medical College, 1861; for forty years a practitioner of LaCrosse, Wis.; died at his home in Everett, Wash., February 20, from heart disease, aged 72.

**Alonzo D. Birchard, M.D.** Bellevue Hospital Medical College, 1864; for 44 years a practitioner of Cambridge Springs, Pa.; died at his home, February 23, from angina pectoris, aged 73.

**Richard M. Pancoast, M.D.** Jefferson Medical College, 1845; for more than half a century a practitioner of Philadelphia; died at the Old Man's Home in that city, March 3, aged 85.

**Thomas Coates Stockton, M.D.** Bellevue Hospital Medical College, 1868; a pioneer practitioner of San Diego, Cal.; died at his home in that city, March 1, from paralysis, aged 72.

**Adam Overfield, M.D.** University of Michigan, Ann Arbor, 1870; for more than thirty years a resident of Houghton, Mich.; died at his home in Toledo, Ohio, February 27.

**Mary E. McCarty, M.D.** Homeopathic Medical College of Missouri, St. Louis, 1890; died recently at her home in St. Louis, and was buried in Boonville, Mo., March 4.

**Fred C. Abbott, M.D.** University of Louisville, 1908; an intern in the Springfield (Ohio) City Hospital; died in that institution, March 5, from typhoid fever, aged 29.

**Franklin T. Cook, M.D.** University of Tennessee, Nashville, 1881; for 33 years a practitioner of Taylor, Texas; died in Phoenix, Ariz., March 2, from nephritis, aged 57.

**Israel S. Brault, M.D.** Ecole de Médecine et de Chirurgie, Montreal, 1890; of St. Albans, Vt.; died in Montreal, February 1, from lobar pneumonia, aged 48.

**Samuel Smith Brecht, M.D.** Pennsylvania Medical College, Gettysburg, 1859; died at his home in Manheim, Pa., March 5, from cerebral hemorrhage, aged 79.

**Charles W. Fall, M.D.** Central College of Physicians and Surgeons, Indianapolis, 1889; died at his home in Fowler, Ind., February 24, from nephritis, aged 51.

**George Madison Cooper, M.D.** Hahnemann Medical College, Philadelphia, 1895; died at his home in Bryn Athyn, Pa., March 2, from heart disease, aged 36.

Medical Association itself, will be in direct proportion to the assistance and cooperation rendered by the representatives of the different states.

The report of Dr. Green was referred to a reference committee consisting of Drs. F. A. Long, D. C. Budge, and Major M. W. Ireland. This committee subsequently reported as approving the recommendations therein contained, and on motion the report was adopted.

## WEDNESDAY AFTERNOON SESSION

### Report of Reference Committee on National Legislation

DR. G. B. YOUNG, U. S. Public Health and Marine-Hospital Service, presented the report of this committee, as follows:

The Reference Committee on National Legislation to which was referred certain bills pertaining to the Medical Corps of the United States Navy presented to the Council by the representative of that department, presents the following report:

The bills in question are as follows: S. 1017, H. R. 6184, Sixty-first Congress, first session. "A bill to Reorganize and Increase the Efficiency of the Hospital Corps of the United States Navy and to Regulate its Pay." S. 1015, H. R. 4305, Sixty-first Congress, first session. "Authorizing the Appointment of Dental Surgeons in the Navy." S. 4745, H. R. 16892, Sixty-first Congress, second session. "To Equalize the Pay and Allowance of Assistant Surgeons and Acting Assistant Surgeons in the United States Navy." Bill submitted in draft and not numbered: "To Increase the Efficiency of the Medical Department of the United States Navy."

Your Reference Committe has carefully considered the bills above referred to and earnestly recommends the unanimous support of the Council for these measures.

### Committee on Federal and State Regulation of Public Health

This committee, composed of Drs. C. H. Cook, B. M. Caples, and W. Jarvis Barlow, reported that the bill now before Congress, asking for a department of health, will probably not be passed at the present time. The committee suggests that a bill be passed that will give recognition to the health interests of the country in the title of "a department," and that within that department there be organized an efficient bureau of health to consist of all present public national health agencies.

On motion, the report was adopted.

### Report of Committee on Optometry

DR. GEORGE W. GAY, Boston: The committee believes most emphatically with the medical profession that as a rule a medical training is indispensable for a proper treatment of the eye on account of the close relationship between the eye and other parts of the body, and between eye symptoms, like headache and poor sight, and general constitutional conditions. Without medical training and with nothing but his crude untrained observation how will the optometrist be able to tell the presence of deep-seated intraocular disease? The optometrists have few, if any, proper schools and those already in existence are not officially recognized by the optical societies. The great state of New York has but one school of optometry and that is located in Rochester, the city of New York having none. Furthermore, an overwhelming majority of the optometry or optical schools consists entirely of correspondence courses of a few weeks or months, giving a degree in which the title "doctor" is apt to figure prominently. The price of these courses varies from five to twenty-five dollars and usually includes a handsomely engraved diploma. Optometry is a trade, not a profession. Like that of the optician, it is learned as are many trades, the watchmakers, for example, by working in a shop as an apprentice for a time, then perhaps as a journeyman until able to set up business for himself. No special preliminary education is required, and he earns his living while learning the business. This is a very different experience from that of learning a profession, as that of an oculist, for instance, which requires several years of preparatory study before entering the medical school term of four years, then the hospital course and the post-graduate courses, to say nothing of the considerable expense involved in this career of the practitioner.

### Medical Expert Testimony

DR. L. M. HALSEY, New Jersey, presented the report of this committee. The report is considered preliminary with a view to throwing some light on a topic, which, for a long time, has engaged the attention of some of the brightest minds in the legal and medical professions.

As the result of a recent canvass made by the Committee on Medical Legislation of the American Medical Association it was found that of thirty-five states heard from only two, Michigan and Rhode Island, had statutes regulating the admission of medical expert testimony to the courts. In summarizing its work the committee offered the following suggestions:

1. Give the courts the common-law power to charge the jury on the expert evidence.

2. Also give them the authority to call experts of their own motion under certain conditions, said experts to be paid by the county in which the case falls.

3. Resort more frequently to medical commissions and to the custom which obtains in ordinary consultations.

4. Let the courts allow to serve as experts only those who are properly qualified and let them be treated as gentlemen in court, abolishing the custom, too prevalent in some places, of badgering and insult during cross-examination.

Could these suggestions be adopted, there would be little, cause for complaint as to the character of medical expert evidence in our courts. Expert medical testimony would occupy a higher standard of excellence than it has ever done before, one commensurate with its importance and its universal demand.

The reports submitted by various committees were adopted.

As Secretary Green called the roll of states, each delegate stated briefly the condition of medical legislation in his state.

### Report of the Carroll Fund Committee

MAJOR M. W. IRELAND, U. S. Army, chairman of the Carroll Fund Committee, gave a detailed statement of the work of this committee, giving the names of all subscribers and the amounts subscribed. The committees urged that action be taken to secure the property of Mrs. Carroll from future indebtedness, and on motion the committee was given power to act in this regard.

### Report of Committee on Conclusions and Plans of Action

SECRETARY GREEN presented the following report of this committee:

1. *Resolved:* That it be the sense of this Conference that opticians be licensed as such by the state medical boards, and that Dr. Gay's pamphlet be endorsed and ordered distributed.

On motion, this resolution was adopted.

2. *Resolved:* That the Conference recommends the passage of bills S. 1017, H. R. 6184, Sixty-first Congress, first session; S. 105, H. R. 4305, Sixty-first Congress, first session; S. 4745, H.R.16892, Sixty-first Congress, second session; also the bill to increase the Medical Department of the United States Navy.

On motion, the resolution was adopted.

3. *Resolved:* That the Conference recommends the passage of the bill for the relief of the estate of late Assistant Surgeon, W. H. Miller, U. S. P. H. and M.-H. S., and recommends the passage of legislation in the interests of the personnel of the U. S. P. H. and M.-H. S.

On motion, this resolution was adopted.

4. *Resolved:* That the Conference recommends that state food laws be so amended as to provide that advertisements of food and drug products correspond with the labels; and that the drug section of the model pure food law conform as closely as possible to the national Food and Drugs Act.

On motion, the resolution was adopted.

5. *Resolved:* That the Conference heartily endorses the position taken by the President in his message to Congress in regard to national health legislation, and urges on Congress the passage of legislation looking toward such ends.

6. *Resolved:* That the Conference endorses the control by state medical examining boards the standards of medical education, and also endorses the standards of education, both preliminary and collegiate, recommended by the Council on Medical Education, but it is the sense of the Conference that adherence to these standards should not be allowed to result in the destruction of a single sectarian board.

On motion, the resolution was adopted.

On motion of Dr. Halsey, the report was then adopted as a whole.

The conference then adjourned *sine die.*

## AMERICAN CONFEDERATION OF RECIPROCATING MEDICAL EXAMINING AND LICENSING BOARDS

*Annual Meeting, held in Chicago, March 3, 1910*

Dr. W. A. Spurgeon, President of the Indiana State Board of Registration in Medicine, in the Chair

Out of a membership of fourteen states, eight states were represented and three reciprocating states, not in membership, however, were represented. Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, is the secretary of the confederation.

### President's Address: Work of the Association During the Past Ten Years

Dr. W. A. Spurgeon reviewed the work of the association for the past ten years, showing that much progress has been made toward establishing reciprocal registration between nearly all the states. He pointed out the necessity for such an arrangement, and held that the professional liberty or freedom obtained in reciprocity must be regarded as a reward of merit, and that it becomes a most effective incentive to high uniform attainments on the part of the individual physician as well as on the part of the examining board, and that medical legislation has accomplished much good in the unification of the profession in the elevation of standards of medical education and premedical training, and in the elimination of inefficient medical colleges, fakers and ignorant pretenders. The absence of uniformity of requirements of the medical laws of the country is one of the chief defects and objections to such laws.

Dr. Spurgeon recommended the appointment of a committee on uniform legislation, this committee to be instructed to formulate an address to the governors of the several states and territories, asking the executive to appoint representative men in his state conversant with medical legislation and not necessarily physicians to cooperate with this committee in the formulation of a model medical bill, to be submitted to the legislatures of the states and territories, to the end that uniform requirements may be obtained in all the states. He also recommended the appointment of a standing committee on inspection and rating of medical colleges. Specifically stated, it shall be the duty of this committee to determine the relative educational value of the medical educational institutions of the country, and also of the preliminary training schools, report to the confederation annually, and recommend standard minimum requirements that shall form the basis of its work. This committee should be distributed geographically and should represent the several so-called schools of medicine recognized by the confederation. The active work of investigation and inspection should be delegated to an executive sub-committee to be chosen by the original committee. The annual report of this committee should be thoroughly discussed by the confederation and the report as finally adopted to be spread on the records of the confederation and a copy sent to the various medical examining boards, with the view that the boards will unite in adopting the findings of the confederation.

### Report of Secretary

Dr. B. D. Harison, Detroit, reported that the following states are now in membership in the association: Georgia, Indiana, Iowa, Kansas, Maryland, Michigan, Nebraska, Nevada, Ohio, Oklahoma, Utah, West Virginia, Wisconsin and North Dakota. The following states are on a reciprocal basis: Arkansas, Colorado, Delaware, District of Columbia, Illinois, Kentucky, Louisiana, Maine, Minnesota, Missouri, North Carolina, New Hampshire, New Jersey, New York, South Carolina, Tennessee, Texas, Vermont, Virginia and Wyoming.

During 1909, 1,009 reciprocal registrations were granted, 933 under Qualification I, and 76 under Qualification II. This report does not include reciprocal registrations that may have been made in the following states, from which a report was not received: District of Columbia, Georgia, Kansas, Missouri, Nebraska, South Carolina, Tennessee, Virginia and West Virginia.

### Commitee on College Rating

The committee to which was referred the address of the president recommended the appointment of a standing committee on college rating, consisting of seven members, representing the several colleges of medicine recognized by the confederation, to be known as the "Committee on College Standing and Rating." It shall be the duty of this committee to investigate, by inspection or otherwise, the medical institutions and secondary schools of the country, and to report its findings to the confederation from year to year. The report of this committee when adopted by the confederation shall be available for the information of the state boards of the country. The president of the confederation shall be a member of this committee.

### Committee on Legislation

The committee also recommended that each state examining board be requested to appoint a delegate, and that the governor of each state be likewise requested to appoint a delegate, not necessarily a medical man, and that these delegates shall compose a standing committee on legislation. It is to be the duty of this committee to prepare a uniform medical law, with a view to securing its adoption by the legislatures of the several states.

The report of the committee was adopted.

### Investigation of Methods of Examining Boards

On motion of Dr. Herbert Harlan, president of the Maryland Board of Examiners, the Committee on College Rating was instructed to consider the advisability of making an investigation into the methods employed by the various examining boards.

It was also decided to appoint a committee looking toward effecting an amalgamation of this confederation and the National Confederation. This committee is to consist of three members, two of which shall be the president and secretary of the confederation. (The president was empowered to appoint these committees *ad interim.*)

### Officers Elected

Dr. Spurgeon was reelected president and Dr. Harison was reelected secretary of the confederation. The time of meeting for next year was left to the discretion of the committee on amalgamation, inasmuch as it seemed inadvisable to set any time of meeting without consultation with the national confederation.

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## TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA

*Twelfth Annual Meeting, held in Richmond, Va., Feb. 15, 1910*

Dr. Joseph White, Chairman of the Committee of Arrangements, Presiding

The officers elected were given in The Journal, Feb. 26, 1910, p. 716.

### Addresses of Welcome

Hon. William Hodges Mann, Governor of Virginia, delivered the address of welcome, which was responded to on behalf of the society by Dr. Hubert A. Royster, Raleigh, N. C.

### Education of the Public Regarding Cancer

The president, Dr. LeGrand Guerry, Columbia, S. C., delivered an address on "Some of the Things the Profession Can Do in Regard to Cancer." The following papers on cancer were also read: Dr. Southgate Leigh, Norfolk, Va., "Cancer Education," and Dr. Stephen Harnsberger, Catlett, Va., "Cancer in Virginia—Trustworthy Vital Statistics the Foundation of Public Health—The Organization of a Cancer Association in Virginia."

At the suggestion of Dr. Leigh a resolution was adopted to the effect that the association should take some action in connection with the dissemination among the public and the profession of the proper views in regard to cancer.

A committee of six was appointed—two members from each of the three states—to take the matter up with the state boards of health, and any other officers in authority, whom they thought best, to act with the society in this important matter.

### The Religious Press and Quackery

Dr. Rolfe E. Hughes, Laurens, S. C., read this paper, at the conclusion of which it was unanimously resolved that a copy of the paper be sent to the editor of every religious paper in the three states.

### Annual Oration: Contributions of Animal Experimentation in Medicine

Dr. Henry A. Christian, Boston, read this paper to a packed house, a large number of laymen being present:

This subject was selected because much of the recent progress in medicine has been founded on the results of animal experimentation, and because it is important that the medical profession should recognize this fact since an active campaign has been developed against animal experimentation. The attacks are best met by spreading among the people general information about the aims and ideals of medicine, its methods and the part played by animal experimentation in them. This must be done by the physicians, and to do it they must appreciate the value of animal experimentation to clinical medicine. This paper deals not with the individual contributions of animal experimentation to medicine, but emphasizes the value of animal experimentation as a method which has served, and is serving, to widen the scope of investigations in clinical medicine. From the use of the method of animal experimentation along with other methods of investigation, practical knowledge has come which has increased the power of physicians in dealing with disease.

The study of epidemic cerebrospinal meningitis during the period of a hundred years yielded much knowledge of the disease, but not until the method of animal experimentation was utilized was there discovered a satisfactory method of treating the condition. In this disease discovery of a serum resulted from the method of animal experimentation, and the use of this serum has reduced the mortality from some 80 to about 20 per cent. Nephritis is an example of a chronic condition whose study has been aided much by animal experimentation in recent years. Finally, the result of the recent successful production of anterior poliomyelitis in monkeys will probably be knowledge of facts which would be likely to serve in the prevention of the spread of epidemics of this condition. Moreover, an opportunity may be furnished by this experimental poliomyelitis in monkeys to study the results of various forms of treatment of the secondary paralysis of the disease. Even if the concrete advances already made by animal experimentation were effaced, still the potential value of the method would fully justify its use.

### Hereditary Criminals—The One Sure Cure

Dr. Charles V. Carrington, Richmond, Surgeon to the Virginia Penitentiary, went fully into the profound influence heredity excited on the lives of every one, saint and sinner. The powerful effect of environment on criminals was made clear. The paper was full of facts and figures, showing the steady increase of crime throughout the country and in Virginia. The "one sure cure," restriction of procreation in the idiot, imbecile, habitual criminal, and insane person, was fully gone into, and it was clearly shown that vasectomy in the male, and resection of the Fallopian tube in the female, was the safe, sure and right solution of this problem. A bill is now pending in the Virginia legislature to prevent procreation by confirmed criminals, imbeciles, rapists and insane persons.

Dr. Carrington's paper received close attention and the following resolution was unanimously adopted:

> *Resolved:* By the Tri-State Medical Association, that it unanimously endorses the proposition covered by Dr. Charles V. Carrington's paper on "Hereditary Criminals—the One Sure Cure," and respectfully urges the Virginia legislature, now in session, to pass the bill to prevent "procreation by confirmed criminals, idiots, imbeciles and rapists."

Another resolution was adopted, in connection with this matter, appointing three members each from the states of North and South Carolina, to see what action could be taken in those states in regard to the criminal insane.

## CHICAGO GYNECOLOGICAL SOCIETY

*Regular Meeting, held Feb. 18, 1910*

The President, Dr. Charles B. Reed, in the Chair

### Carcinoma of the Uterus

Dr. Emil Ries: The specimens of carcinoma of the uterus here shown illustrate the perniciousness of the altogether too common treatment by means of local applications employed by many general practitioners, in the absence of a correct diagnosis. One patient, aged 50, was treated locally for 7 months, when an operation was performed. She was alive and well 2 years later. A second patient, aged 57, had been treated locally for a year, and is now alive and well, 3 years after operation. A third patient had uterine hemorrhages for 2 years, and on examination it was found that the carcinoma involved the entire body of the uterus. The organ was removed, but an extensive recurrence was noted 4 years later. In a case of carcinoma of the cervix occurring in a syphilitic weighing 250 pounds, all the glands were removed together with the uterus and adnexa, and 6 months after the operation the patient was in good health with no sign of recurrence. A woman, aged 57, had glandular carcinoma of the cervix. The uterus, tubes, ovaries, ligaments and all the lymph vessels and glands were removed thoroughly. The operation was done 9 years ago, and the patient is still in good health. The diagnosis was confirmed microscopically. I think that this proves conclusively that even in cases of glandular carcinoma the diagnosis need not necessarily be grave.

### Pregnant Cornu of Uterus

Dr. Lester E. Frankenthal: I removed a pregnant cornu of the uterus from a woman in whom the corpus luteum was on the side corresponding to the cornu, showing that the transmigration of the fecundated ovum is not necessary, and that fecundation may occur on the same side.

### Missed Abortion

Dr. Lester E. Frankenthal: The patient menstruated last June 10, 1909. Early in November, she had uterine hemorrhages, and on examination I found the uterus to correspond in size to a fourteen or sixteen weeks' pregnancy, although it should have corresponded to a twenty or twenty-two weeks' pregnancy. Inasmuch as the husband of the patient was syphilitic, I gave large doses of iodid of potassium, and the bleeding stopped. Early in February, I called on the patient to leave final instructions and on inquiry she told me that the baby was very lively. When I examined the uterus, however, I found that it had grown smaller, and, believing that the child was dead, I did a tent dilatation, removing the secundines with the fetus, which was well-preserved and evidently was no more than eight weeks old. The patient had carried the fetus in the uterus for twenty-seven or twenty-eight weeks after its death, and yet the fetus was well preserved.

## SYMPOSIUM ON ABORTION

### Legal and Moral Aspect of Abortion

Mr. Sigmund Zeisler: According to the common law it is criminal to produce abortion even up to the time of quickening or with the consent of the mother. To produce miscarriage prior to the time of quickening is a misdemeanor. The statutory law of this country has made abortion or miscarriage of pregnant women in any stage a crime. The law also provides that the woman must be pregnant with child, so that a *corpus delicti* must be established. Unless this is done, it is impossible to be guilty of abortion or the crime of attempting it. The punishment is the same in either case. In Illinois, it would not make any difference how long the fetus had existed. To cause the destruction and expulsion of the fetus is to commit abortion, and that is a crime. The law provides that "unless the same is done as necessary for the preservation of the mother's life." This does not mean that any one can produce the abortion and say it was necessary to preserve life. If a reputable physician declared under oath that he aborted a woman to save her life, his statement would not be questioned. The presumption is that unless the one who produces the abortion is a reputable physician, the act is not committed for the purpose of saving life. It might be argued that if an abortion be induced in a woman who is insane with the fear of detection of being pregnant, it is done to save her life, because otherwise she would commit suicide. That would not be an offence, because it can never be told whether a woman threatening to commit suicide will really do so. Again, an attempt to produce abortion may fail, but still the attempt is punishable under the statute and constitutes the crime of abortion. There must, however, be some aptitude of the means employed before a man can be adjudged guilty of an attempt to commit this crime. If a man advised a woman to take Huyler's chocolates, although he might intend to commit the crime of abortion, still he would not be guilty. On the other hand, if a man advises a woman to take an apt medicine and she does not take it, he is guilty of an attempt to produce abortion. Under the statute, the woman who consents is not guilty of producing abortion, but there is a satute which speaks of an accessory before the fact, and it is my opinion that a woman who consents and aids in the production of an abortion on herself is guilty as an accessory, hence is a principal under our statute. There is also the statute of conspiracy, which provides that if two or more persons shall combine or conspire to do an illegal act, they shall be guilty of conspiracy. This makes the woman equally guilty with the operator.

As to the moral aspect: It is wrong to commit abortion. It is a violent interference with normal physiologic processes. It is fraught with danger to life or at least health. In the case of married people, if abortion were to be sanctioned, it would be an encouragement to race suicide. In the case of unmarried women it would encourage licentiousness. However, there are circumstances which would prompt one not to condemn a woman. If I could do it and others would help me, I would try to fight that prejudice which generally and under all circumstances condemns the unmarried woman. We ought to educate society not to indulge in this anathema of every woman, but to inquire into the circumstances of each case, and extend forgiveness, indulgence, helpfulness, to every woman who richly deserves it. Unfortunately, that is not the view of society at the present time.

### Methods of the Professional Abortionist

**Dr. Rudolph W. Holmes**: The professional abortionist, transgressing one law, finds that he must defend his position by various other criminal acts, by knavery and revolting manifestations of cupidity. The perpetration of one criminal abortion obtunds the moral sense and leads to others. The risks of prosecution, and the prolonged incarceration, if convicted, demand excessive rewards—fair compensation is inadequate, so he secures large compensation, too often by intimidation, coercion, and even robbery. The criminality of the professional abortionist is not composed of the production of illegal interruptions of pregnancy alone, but includes all the machinations stimulated by his avarice. It is possible to view this question from two points: One, the discussion of the frauds, chicanery employed in obtaining clientele, and securing the rewards; secondly, the methods employed in the production of the felonious attack.

There are three kinds of abortionists: First, the young man, starting in practice, who is inveigled into committing his first offense in his pressing need of money; secondly, the man who stands fairly well in his community with a certain clientele, and who largely is engaged in ethical practice, but who relieves his patients in order that he may hold his families; thirdly, the professional abortionist, who works for revenue only. There are too many members of the second class, who even may be members of the local, state and national medical societies.

Professional abortionists have a trust, have, like the financial organizations, a strong legal department, a central office, a manager who attends to routine matters; this organization is for offensive and defensive warfare. The legal department, skilled in all devious means of combating a prosecution, experts in medical matters concerned, is able easily to outweigh the young Assistant State's Attorney; defenses are prepared for every contingency. Alibis, bribery, perjury, are ready in rebuttal.

Until three or four years ago, the professional abortionists advertised most extensively in the daily press; this was stopped by the postal department on evidence presented by the Committee on Criminal Abortion of the Chicago Medical Society. In the old days, one paper had a department whose sole business was to look after the abortion advertisements. The fees for doing abortions vary from two dollars, in the hands of the poorest midwives, up to any sum possible of securing by contract—after that, many abortionists use devious means of obtaining additional compensation, even to blackmail. As chairman of the abortion committee, previously mentioned, repeated examples of the chicanery, fraud, robbery, blackmail and perjury came to my attention. The advertising physician tries to make a charge of from 50 dollars to 75 dollars; a similar fee is charged for the first week's attendance at a "maternity home," of which there are many in Chicago. Bath parlors give local electric treatment, with or without general baths, for two or three dollars. Abortionists frequently work in pairs; one makes the arrangements, and the other performs the operation—often in such a manner that the victim cannot see who performs the operation. The popular way for the woman abortionist is to operate under two names—her own and that of some retired prominent operator.

A discredit to the medical profession is brought about by the fact that some physicians in good standing have a working agreement with abortionists to attend patients after the operation has been performed, thereby assuming a responsibility, and becoming virtually, if not actually, accessories after the fact. They lend themselves as character witnesses in trials, and prostitute themselves by appearing as experts to befog the situation with specious arguments, or even perjury.

The methods employed in producing abortions are of comparatively little value in comparison to the frauds perpetrated by the abortionists. However, the methods commonly employed by reputable men in inducing premature labors are resorted to by the criminal operators. The rupture of the membranes, introduction of rubber catheters, and tents, are the usual operative means; drugs are frequently given by those too fearful to employ instruments, knowing that the money is given, and that with high probability, no effect will be produced. Irrespective of the method employed, the operations are generally performed without any regard to the observance of surgical cleanliness, either of patient or instruments; as a result, infections are frequent. Death is not solely sequential to an infection, but also may be the result of uterine and vaginal perforations. From 40 to 60 deaths by abortion come to the attention of the coroner each year; these surely must be but a fractional portion of those occurring from this cause.

### The Forensic Diagnosis of Criminal Abortion

**Dr. Maximilian Herzog**: The forensic diagnosis of criminal abortion has to establish two points; namely, that a gestation has been going on, and that it has been intentionally interrupted by means adapted or supposed to be adapted for this purpose. But whether the object of a criminal abortion is alive or dead, the fact of the preceding pregnancy has to be established by objective findings and not by mere subjective statements, because these may be entirely unreliable. A woman may have some motives for simulating a previous pregnancy, or she may have been mistaken about her condition. It is a well-known fact that cessation of the menses is not at all a reliable sign of pregnancy, but that a guilty conscience and purely nervous influences may be responsible for it. It is to-day a principle of the law, not merely in suspected criminal abortions, but in other cases of forensic bearing, that diagnosis of pregnancy to be fully accepted has to be based on objective findings. However, even this evidence is available only a short time after an abortion has occurred. When the latter has not led to a local or general infection, or to any other more severe disturbance, and when the abortion has occurred in the earlier months of gestation, all objective signs will disappear within one or two weeks. When, however, the object of an abortion dies shortly after the latter has occurred, it is comparatively easy to establish the fact of the previous pregnancy interrupted by an abortion. It is a different thing, however, to establish the fact that the woman came to her death in consequence of a criminal and not of a spontaneous or accidental abortion. According to the statistics of various observers, spontaneous abortion occurs in 1 out of every 4 to 8 pregnant women, and these figures undoubtedly do not include the abortions in women during the first few weeks of pregnancy. While criminal abortion is unfortunately very common and has been practiced extensively for many centuries among civilized as well as among uncivilized nations, it is generally only taken notice of among the former, if it leads to a fatal issue. It is impossible, therefore, to give any reliable statistics, but we must assume that it is much more common than can be proved, and that even of undoubted cases only a very small proportion of the guilty are punished.

When an abortion is induced in a woman, not on account of well-recognized medical indications, but for reasons which stamp it a criminal case, this is frequently done by incompetent persons, hastily, and not in the most approved aseptic manner, safeguarding the best results as to the health and life of the woman; hence, even if a fatal infection does not occur, the products of the conception generally come away piecemeal, portions of the placenta generally remain behind, cause long-continued hemorrhages, and lead to curettage by skilled and reputable practitioners.

The forensic diagnosis of criminal abortion must establish that there recently existed a pregnancy which was interrupted by an abortion. This is usually comparatively easy, provided that uterine curettings can be obtained or a proper postmortem examination made. To establish from objective findings that the abortion was due to mechanical means, criminally employed, is difficult, even when a strong suspicion exists, and when a fatal issue was due to sepsis. When the abortion was due to the use of medicinal agents, these may be identified by the toxic symptoms to which they give rise, and by chemical tests. However, there is no set of symptoms by which a spontaneous abortion can infallibly be distinguished from one following mechanical interference.

## Discussion on Abortion

Dr. Charles S. Bacon: Why is there a distinction between fetal life and post-natal life? Why is not feticide the same as murder, and why should not the law recognize this by meting out the same punishment in both cases? Another question I would like to bring up is: What are the limits of therapeutic abortion? According to the law, it is recognized only when it is necessary to save the life of the mother. As a matter of fact, almost all therapeutic abortions are done to save the health of the mother. Therefore, when a physician operates for that reason, he is breaking the law. The law should make a provision for this, and not make us unwilling lawbreakers.

Dr. Rachelle S. Yarros: We are frequently far too hard in some cases. I have frequently thought that instead of taking the woman and punishing her in every possible way as the responsible person, why not also punish the man? Society should in some way make him responsible, at least to the extent of having him carry the burden by making him legally the father and forcing him to support the child. I am sure that if this were done some men would not be placed in that position; and many women would not think of having an abortion performed if they had support from the man. The man who has seduced the girl knows that she will either have an abortion or, if not, that she will suffer. He should be made responsible. I think that with proper education on the subject, showing women the danger they are in, they will control themselves more.

Dr. Effa V. Davis: I was glad to hear Mr. Zeisler's exposition of the law and his discussion of the moral side. We must educate the public. People should be taught what is right and just about sexual relations. As we have talked so much about the illegitimate child and felt so keenly that it is wronged, why should we not from now on labor to make the illegitimate child a legitimate child by making its father its legal father? I believe that the birth of a child of healthy parents in the unmarried state should constitute a marriage.

Dr. Effie Lobdell: Mr. Zeisler struck the keynote of the whole question when he spoke of the attitude toward the woman. It seems to me that the only way in which a cure can be brought about is by placing the matter on an economic basis; that is, a consideration of the laws of the community, of the laws of life, and also the value to the community of a cure of these irregularities.

Dr. Rudolph W. Holmes: Three or four years ago there was a case of prosecution for the production of abortion in the criminal court of Illinois. The Assistant State's Attorney told me that after carefully looking through all the records he could not find a single instance of conviction for the production of abortion.

Mr. Sigmund Zeisler: I do not recall that there is a definite provision in the criminal code of Illinois on the subject of feticide. I presume that the legislature has been under the impression that most feticides are coincident with the producing of abortion. Of course, there may be feticide other than in the shape of miscarriage. A child is recognized as a living human being after the quickening period, and is capable of being appointed administrator or executor of an estate. The destruction of the fetus in any way separate from abortion is, if not a crime, at least a misdemeanor. Under the common law it was a criminal act, and I think that it is still so at the present time. If not, Dr. Bacon is right in stating that that is a defect in the law. Every profession has its code of ethics, and I would not presume to dictate to physicians what professional ethics would make it their duty to do under certain circumstances. However, I do not believe that under any circumstances a physician should consider it his business to aid in the covering up of crime, if called as a witness in court. He should not attempt to abuse any so-called privilege, but should freely tell the truth.

Some one has referred to the innocent child as an important factor. That also I discussed. It is the child that we do consider when we say that future generations must be provided for. It is true that the woman is made to bear almost entirely the consequences of the illicit intercourse between man and woman. I regard that as a great reproach to our conventional morality and to the law, and the law is very deficient in that matter. If the man can be pointed out with any degree of certainty as being the father of an illegitimate child, there is a proceeding known as bastardy proceeding, through which he can be compelled to pay to the mother for the support of that child the sum of fifty dollars a year for nine years. But why this ridiculous sum? Why not provide that the child shall be an heir of the father just the same as the child born in wedlock? Why not compel the father to support the child according to his means? If not to provide any support for the unfortunate woman will deter her from illicit intercourse, then to provide that the father must recognize the child and make it his heir may deter the man from illicit intercourse; and I am heartily in favor that this latter view should prevail in the law.

Dr. Charles B. Reed: What is the attitude of the legal profession toward the physician as an informer or as an instigator of action in cases coming under his notice?

Mr. Zeisler: I do not know what physicians' ethics are, but I should say that the physician who obtains evidence in the course of his practice of the fact that an abortion has been committed should by all means place his information in the possession of the state's attorney.

Dr. Maximilian Herzog: Dr. Bacon suggests that we make the production of abortion murder. Murder, of course, consists in the killing of a human being. To look on an embryo, four weeks old, as a human being seems to be an exaggerated view. Again, the law allows murder only in the act of self-defense, whether against individuals or nations. How can we make the crime of abortion murder? That would prohibit the peformance of an abortion under any condition, and we would have to accept the standpoint of the Catholic Church, that a living child must not be killed, no matter what the circumstances may be.

As to whether a physician who gains knowledge of an abortion having been performed should report to the state's attorney, the German law places the physician in his relation to his patient in the same position as the confessor stands to his parishioner. Everything he learns is secret, and the German law makes the woman just as responsible for the abortion, whether she does it alone, or whether she consults some one. It makes her punishable under every condition.

There is a way of doing away with illegitimate children—the plan which is prevalent in Japan. There, if a man becomes a father of an illegitimate child, he adopts the child under the general system of Japan, and takes the woman into his own household. Any man who is the father of an illegitimate child, and who has the feelings of a father, will take care of that child and of the woman. That can be regulated by law.

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## CONFERENCE ON HOSPITAL APPROPRIATIONS

*Held under the auspices of the Medical Society of the State of Pennsylvania, at the College of Physicians, Philadelphia, Feb. 4, 1910*

The Chairman of the Committee, Dr. **William L. Estes**, in the Chair

Dr. **Theodore B. Appel**, Lancaster, president of the Medical Society of the State of Pennsylvania, in explaining the object of the appointment of the Committee on Hospital Appropriations said that within a few years appropriations asked for by charitable institutions not under state control have increased from $18,000 to almost $5,000,000; that charges had been made that money had not been appropriated in a proper way, and that hospitals were created and developed on state appropriations when there was no demand for them and no local support given.

Gen. **Frank Reeder**, Easton: I believe that much of the abuse connected with state appropriations is due to the fact that until 1893 the appropriations were all subject to the judgment of the State Board of Public Charities. Since then the exercise of the veto power of the governor has led the legislators to feel that they may appropriate any amount and look to the governor to save the state from extravagance. The power of the governor being therefore firmly established, no hospital after that date has submitted to a reduction of its claims by the State Board of Charities. I believe that the first thing to do is to put into the hands of the State Board of Public Charities a positive and final veto power. I would give to that body the power which the supreme court accords to a jury.

Dr. **George Woodward** distributed a pamphlet written by Mr. Frank J. Firth entitled "Grants of Public Funds of the State of Pennsylvania in Aid of Hospitals that are Privately Owned and Managed," in which was considered the policy adopted by the State of Pennsylvania, and facts noted as to the policy governing in other important neighboring states. "The State of Indiana does not subsidize or grant public funds to any private institution." "Michigan has never subsidized any private institution in the state, of any character." In Massachusetts: "The state does not contribute regularly to the support of any private hospitals. . . . Special cases sometimes arise where the legislature deems it wise to grant aid to private institutions, but, of course, they are very rare." In New York: "General hospitals receive no appropriations from the state itself, but are authorized to receive appropriations from counties, cities, towns and villages. As a rule, such appropriations are made on a *per capita* basis." "The state of Illinois does not extend financial aid to hospitals and charitable institutions not owned and operated by the state."

Miss **Banfield**, Superintendent Polyclinic Hospital, Philadelphia: I think the remedy in the dispensary abuse is to have the dispensary physician paid. In this connection state aid might come in. I think we have a right to receive state aid to keep a man at work as part of the body politic.

Mr. **Francis A. Lewis**, Philadelphia: I represent a hospital which has never asked for state aid, yet when a bequest is left to the hospital we are compelled to pay a 5 per cent. collateral inheritance tax. If the Commonwealth of Pennsylvania needs such bequeathed money for carrying on the expenses of the state, well and good; but, if a hospital is to be docked 5 per cent. in order that the money may be given to some institution for which the testator did not intend it, it seems to me wrong. I believe that no state aid should be given to any institution not controlled by the state which does not provide for two-thirds of its current expenses. This policy also, I think would reduce the number of hospitals and they would be stronger and better managed. Further, I believe that distribution should be made on some sort of *per capita* basis. Political influence would then not have to be sought, and this would prevent state appropriations drying up the wells of private charities. I think no appropriations should be made for buildings; only for maintenance.

Mr. **Thomas R. McDowell**, of the Legislature of Pennsylvania: I believe that we ought to revive and enlarge the powers of the State Board of Public Charities, and that in the judgment of this board is the best safeguard under our present system. I believe, however, that wherever the state money goes there ought to be representation on the part of the state. A *per capita* basis carries with it the danger of padding the rolls.

Dr. **J. M. Baldy**, Philadelphia: This whole question of state aid is improving every day, and it is not fair to burden this magnificent charity with isolated cases of wrong which are of the past. It is impossible for any individual hospital to divert one penny of appropriated money. If the powers of the State Board of Public Charities are revived they should also be enlarged, and the board should be made a paid body of men who shall have no other business than the investigation of reports from institutions seeking state aid. A *per capita* basis would defeat the very object of our effort; every bed would be reported occupied and graft would be engendered.

Dr. **C. E. Thomson**, Scranton: I take issue with Dr. Baldy and think that the *per capita* basis is the only proper one on which to work. Moreover, Dr. Baldy's statements are not consistent. He says the hospitals are absolutely square, and then he says that if they are run on a *per capita* basis every bed would be reported occupied. To show how the physicians are faring in this deluge of appropriations, last year nine very good physicians were starved out of Scranton. Of all the hospital abuses we know of the Wills Eye Hospital is responsible for the worst.

Dr. **S. Lewis Ziegler**, Philadelphia: As a representative of the Wills Eye Hospital, I am sorry to state that there are so many persons in Scranton who are untruthful concerning their financial standing. We have no pay patients, the hospital is purely a charity organization, and a person must commit perjury to be entered. The criticism has been made that hospitals which have private rooms should not receive state aid. Were it not for the income from the private rooms of some hospitals their charity work would have to cease.

Dr. **L. H. Taylor**, Wilkes-Barre: There is much truth in what Dr. Baldy has said. There should not be given exactly the same amount to every hospital throughout the State. I believe that hospitals receiving state aid should be open to inspection at any time and that appropriations should be made on the basis of what the hospital is doing, its cost, etc. I believe that the State Board of Public Charities should have its powers enlarged and that its members should be paid.

Dr. **W. S. Ross**, Altoona: The question is largely one of indigency. There is a large population able to pay a reasonable sum toward the maintenance of a hospital. Any rule would sometimes fail, but it is better to let a rich man in than to keep a poor man out.

Dr. **Shillito**, Pittsburg: One of the greatest hospital abuses is in large corporations sending their injured into the hospitals and expecting them to be cared for at the actual cost.

Dr. **Frederick W. Coover**, Harrisburg: In our treatment of the men from Steelton bills are rendered the firms. To check the charity abuse we use *the card system.*

Mr. **S. B. Bennett**, Pittston: To compensate the members of the State Board of Public Charities would lower its standard. A better plan, it seems to me, would be the appointment by the board of an assistant to the general agent.

Dr. **J. M. Gay**, Philadelphia: I would suggest that no more hospitals be chartered unless it is proved that they are needed; also, that no money be appropriated for buildings. The *per* *capita* basis would be a better proposition if it were operative on the plan of allowing a definite rate *per diem* for every day patient.

Mr. G. E. Farquhar, Pottsville.: If proper attention were given by the legislature to the recommendations of the State Board of Public Charities, justice would be done to every hospital in the state. The opinion and work of the board should be made authoritative.

Mr. Greenwood, Coatesville: If, as has been suggested, appropriations were made only to hospitals in which two-thirds of the cost were already provided, a large population would be without medical attention. Mr. McDowell says that the state ought to have representation where appropriations are made, but I think the personnel of the hospital boards had better be left to the community. The *per capita* basis of appropriations would not apply because of the possibility of its variation. Our *per capita* cost has been as low as $1.30 a day; with but a few in the hospital it might run to $2.50.

Dr. E. V. Swing, Coatesville: There seems to be a difference of opinion as to what constitutes an indigent person. A man making $1.25 or $1.50 a day is barely able to feed and clothe his family and is properly a ward of the state when needing hospital treatment.

Dr. Frank Hartman, Lancaster: I believe that by putting the work of the State Board of Public Charities alongside the work of the auditor-general there would be no difficulty in ascertaining the amount to which each hospital is entitled.

Dr. A. B. Hirsh: There should be a united effort by all institutions through some such plan as a central bureau to get rid of the frauds who apply for treatment at dispensaries and hospitals. Our State Board of Public Charities should have the power, such as the New York board has, of controlling the creation of new dispensaries and hospitals.

Rev. Mr. Rote, Pittsburg: One feature not sufficiently emphasized, I think, is that we cannot send out and get a card account concerning an applicant for hospital treatment. We must act on the instant, and if he prove to be a fraud, get rid of him afterward if we can. There should be some rule on which the actual *per diem* cost of a patient shall be based.

Dr. A. M. Eaton, Philadelphia: The method mentioned by Dr. Hirsh could be adopted in large hospitals. At the first visit the patient should be accepted and his financial condition ascertained. One man representing himself as indigent I learned was the owner of fifteen two-story houses. A woman in my clinic wore diamonds for which she admitted she would not take fifteen hundred dollars. We should petition the legislature to make it a misdemeanor for a person falsely to represent that he is indigent in order to obtain free medical service. One difficulty is in the fact that many hospital boards desire a large number of patients entered on their reports.

Dr. P. Y. Eisenberg, Norristown: I believe that the State Board of Public Charities should have additional power and that their recommendations should be final. A member of our board has made the suggestion that an account be opened for every patient, that the hospital shall collect something from the patient if possible; and that on the basis of the account the state may say how much it will give toward paying the cost of that particular patient.

Dr. Taylor, of Wilkes-Barre, offered the following resolution:

> *Resolved:* That in the sense of this meeting a definite plan should be adopted by which appropriations of state money to charitable institutions should be equitably and justly distributed, and to this end we recommend that the powers of the State Board of Public Charities be enlarged, and that a thorough inspection of all institutions receiving state aid, either in whole or in part, should be made by the State Board of Public Charities and that appropriations should be made by the legislature only on recommendations of said board."

Dr. William T. Sharpless, West Chester: I am in favor of the resolution offered by Dr. Taylor. It also seems to me fair that if the state appropriates money for hospitals it should have something to say about the management. Further, I think we are all agreed that we should like to see the powers of the State Board of Public Charities increased.

The resolution was not voted on, but was referred to the committee on hospital appropriations.

# *Medical Education and State Boards of Registration*

## COMING EXAMINATIONS

Arizona: Phoenix, April 4-5. Sec., Dr. Ancil Martin.
California: San Francisco, April 5. Sec., Dr. Charles L. Tisdale, 929 Butler Building.
Colorado: Denver, April 5. Sec., Dr. S. D. VanMeter, 1723 Tremont Place.
Florida: Jacksonville, April 4-5. Sec., Dr. J. D. Fernandez.
Idaho: Boise, April 5. Sec., Dr. O. J. Allen, Bellevue.
Illinois: Chicago, April 14-16. Sec., Dr. J. A. Egan, Springfield.
Minnesota: State University, Minneapolis, April 5. Sec., Dr. W. S. Fullerton, 214 American Nat'l Bank Bldg., St. Paul.
Montana: The Capitol, Helena, April 5. Sec., Dr. W. C. Riddell.
New Mexico: Santa Fe, April 11-12. Sec., Dr. J. A. Massie.
North Dakota: Grand Forks, April 1-4. Sec., Dr. H. M. Wheeler.
Oklahoma: Ione Hotel, Guthrie, April 12. Sec., Dr. Frank P. Davis, Enid.
Rhode Island: State House, Providence, April 7-8. Sec., Dr. Gardner T. Swarts, Room 315, State House.
West Virginia: Wheeling, April 12-14. Sec., Dr. H. A. Barbee, Point Pleasant.

## Oregon July Report

Dr. R. C. Coffey, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, July 6, 1909. The number of subjects examined in was 16; total number of questions asked, 108; percentage required to pass, 75. The total number of candidates examined was 111, of whom 74 passed, including 10 osteopaths and 37 failed including 2 non-graduates and 2 osteopaths. The following colleges were represented:

PASSED

| College | Year Grad. | Total No. Examined. |
|---|---|---|
| Birmingham Medical College | (1907) | 1 |
| Coll. of Phys. and Surg., San Francisco | (1898) (1907) | 2 |
| Gross Medical College, Denver | (1899) | 1 |
| University of Colorado | (1904) | 1 |
| George Washington University | (1908) | 1 |
| Rush Medical College | (1886) (1907) | 2 |
| Northwestern University Medical School | (1904) (1907) (1908) (1909) | 4 |
| College of Physicians and Surgeons, Chicago | (1895) (1899) (1903) (1905) (1909) | 5 |
| University of Iowa, Coll. of Homeo. Med. | (1905) (1909) | 2 |
| University of Kansas | (1903) | 1 |
| University of Louisville | (1909) | 1 |
| Hospital College of Medicine, Louisville | (1894) | 1 |
| Baltimore Medical College | (1902) | 1 |
| University of Michigan, Coll. of Med. and Surg. | (1909) | 2 |
| University of Michigan, Homeopathic College | (1904) | 1 |
| University of Minnesota, College of Medicine | (1898) | 1 |
| University of Minnesota, Coll. of Homeo. Med. | (1897) | 1 |
| Kansas City Medical College | (1891) (1902) | 2 |
| St. Louis College of Physicians and Surgeons | (1908) | 1 |
| Missouri Medical College, St. Louis | (1894) | 1 |
| Bellevue Hospital Medical College | (1867) | 1 |
| Ohio Medical University | (1905) | 1 |
| Pulte Medical College | (1894) | 1 |
| Miami Medical College | (1891) (1908) | 2 |
| University of Oregon | (2, 1908) (10, 1909) | 12 |
| Willamette University | (1906) (3, 1907) (4, 1909) | 8 |
| University of Pennsylvania | (1908) | 1 |
| Medico-Chirurgical College, Philadelphia | (1906) | 1 |
| University of Tennessee | (1903) | 1 |
| University of Vermont | (1886) | 1 |
| Marquette University, Milwaukee | (1908) | 1 |
| Queens University, Kingston' Ontario | (1906) | 1 |
| Trinity Medical College, Toronto | (1890) | 1 |
| FAILED | | |
| University of Colorado | (1904) | 1 |
| Atlanta College of Physicians and Surgeons | (1891) | 1 |
| College of Physicians and Surgeons, Chicago | (1905) | 1 |
| Illinois Medical College | (1908) | 1 |
| Rush Medical College | (1903) | 1 |
| Chicago College of Medicine and Surgery | (1904) | 1* |
| Drake University, College of Medicine | (1904) | 1 |
| University of Louisville | (1907) | 1* |
| Kentucky School of Medicine | (1908) | 1 |
| Michigan College of Medicine and Surgery | (1898) | 1 |
| St. Louis College of Physicians and Surgeons | (1904) | 1 |
| Barnes Medical College | (1900) (1906) | 2 |
| Bellevue Hospital Medical College | (1867) | 1* |
| Ohio Medical University | (1904) | 1 |
| Univ. of Oregon | (1905) (1906) (2, 1908)* (2, 1909) | 6 |
| Willamette University | (1904) (1906)* (1907)* (1907) (1908) (3, 1909) | 8 |
| Memphis Hospital Medical College | (1909) | 1 |
| Tennessee Medical College | (1908) | 1 |
| Western University, London, Ontario | (1900) | 1* |
| University of Turin, Italy | (1899) | 1* |

* Second examination.

### Illinois October Report

Dr. J. A. Egan, secretary of the Illinois State Board of Health reports the written examination held at Chicago, Oct. 20-22, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 84, of whom 52 passed and 31 failed. One candidate took an incomplete examination. The following colleges were represented:

| College | PASSED | Year Grad. | Total No. Examined. |
|---|---|---|---|
| Medical College of Alabama | | (1904) | 1 |
| Howard University, Washington | | (1907) | 1 |
| Bennett Medical College | | (1909) | 3 |
| Hahnemann Medical College and Hosp., Chicago | | (1909) | 2 |
| Illinois Medical College | (1908) | (6, 1909) | 7 |
| Jenner Medical College | (1908) | (2, 1909) | 3 |
| National Medical University | | (1909) | 5 |
| Northwestern University Medical School | | (1909) | 3 |
| College of Physicians and Surgeons, Chicago | | (1909) | 4 |
| Reliance Medical College | | (1909) | 2 |
| Rush Medical College | (1900) (1906) | (5, 1909) | 7 |
| College of Physicians and Surgeons, Keokuk | | (1897) | 1 |
| Kentucky School of Medicine | | (1902) | 1 |
| University of Louisville | | (1909) | 1 |
| Johns Hopkins University | | (1907) | 1 |
| St. Louis College of Physicians and Surgeons | | (1909) | 3 |
| Barnes Medical College | | (1908) | 1 |
| Meharry Medical College | | (1909) | 2 |
| University of Nashville | | (1909) | 1 |
| Vanderbilt University | | (1908) | 1 |
| Western University, London, Ontario | | (1909) | 1 |
| Royal College of Physicians and Surg., Dublin | | (1889) | 1 |
| | FAILED | | |
| University of Arkansas | | (1909) | 1 |
| Bennett Medical College | (1909)* | (1909) | 2 |
| Chicago College of Medicine and Surgery | | (1909) | 4 |
| Chicago Medical College | | (1877) | 1 |
| College of Medicine and Surgery, Chicago | (1908)† (1909)* | (2, 1909) | 4 |
| Hahnemann Medical College and Hospital, Chicago | (1908)** | (1909) | 2 |
| National Medical University | | (1909) | 2 |
| College of Physicians and Surgeons, Chicago | | (1909) | 1 |
| Reliance Medical College | (1909)* | (2, 1909) | 3 |
| Illinois Medical College | | (1908) | 1 |
| Jenner Medical College | (1907)** | (1909)* | 2 |
| Drake University, College of Medicine | | (1909) | 1 |
| Keokuk Med. Coll., College of Phys. and Surg. | | (1908)** | 1 |
| Hospital College of Medicine, Louisville | | (1904)** | 1 |
| Barnes Medical College | (1908)† | (1908)‡ | 2 |
| St. Louis Coll. of Phys. and Surg. | (1906)† | (1909)** | 2 |
| Vanderbilt University | | (1909) | 1 |

* Second examination.
** Third examination.
† Fourth examination.
‡ Sixth examination.

### Nebraska November Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Nov. 10-11, 1909. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 6, of whom 5 passed and 1 failed. A report of sixteen candidates who were licensed through reciprocity since Aug. 10, 1909, has also been received. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| Louisville National Medical College | (1909) | 78.2 |
| Ensworth Medical College | (1909) | 75.7, 79.8 |
| Barnes Medical College | (1909) | 76.5 |
| University of Tennessee | (1909) | 91.5 |
| FAILED | | |
| Chicago College of Medicine and Surgery | (1909) | 72.2 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Hering Medical College | (1904) | Kansas |
| Northwestern University Medical School | (1903) | Minnesota |
| Rush Medical College | (1908) | Utah |
| College of Physicians and Surgeons, Chicago, (1897) (1901) | (1906) | Iowa |
| | (1909) | Iowa |
| Drake University | (1906) | Kansas |
| University of Kansas | (1904) | Kansas |
| Kansas Medical College | (1906) | Missouri |
| St. Louis University | (1909) | Kansas |
| Ensworth Medical College | | |
| Creighton Med. Coll. (1907) Iowa; (1908) Kansas; | (1909) | Wisconsin |
| Nebraska College of Medicine | (1908) | Kansas |
| Jefferson Medical College | (1888) | Iowa |

## Book Notices

Diagnostic Methods, Chemical, Bacteriologic and Microscopic. By Ralph W. Webster, M.D., Ph.D., Assistant Professor of Pharmacologic Therapeutics and Instructor in Medicine in Rush Medical College, University of Chicago. Cloth. Pp. 611, with 211 illustrations. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co., 1909.

The distinguishing feature of this book is the exhaustive diagnostic interpretation of the laboratory findings. In this respect it contrasts most favorably with other books of a similar character in which undue attention is bestowed on the purely academic and theoretic aspects of laboratory medicine, while the clinical significance of laboratory symptoms is only vaguely dealt with. The author manifests the courage of his convictions in a refreshing manner by confessing ignorance in regard to the clinical explanation of certain laboratory phenomena, rather than by indulging in theoretical speculations which are still matters of controversy and which, to the practical medical man, would be misleading. In questions still *sub judice* the opinions expressed are sane and conservative, and depart in no way from established and reasonable premises.

The description of methods is clear; the details are explained in such a manner that even the inexperienced can become proficient if only he will carefully follow directions; much space is properly given to the things that should not be done and to the difficulties one may expect to encounter in performing the different tests. Not all the methods that have ever been described are given, and no claim for completeness in this direction is made. This is commendable rather than otherwise, particularly as the selection of the methods is judicious, and those that have been principally selected by the author are both accurate and relatively easy of execution. While some of the more complicated tests required for purely scientific work are also described—tests that require a high degree of special training and rather extensive paraphernalia—most of the manipulations recommended can be performed by any one with ordinary training and with simple and few apparatus. One is impressed, in reading the author's technical descriptions, with the conviction that he speaks from personal experience with methods and not from purely literary research.

Particular emphasis has been placed on the various nitrogenous excreta of the urine, their recognition, analysis and clinical significance. The introduction of this subject into clinical medicine is comparatively recent, but much of value has been learned from it. The methods of isolating and separately estimating the nitrogenous end-products of metabolism as they appear in the urine in health and in disease are excellently rendered; the interpretation of the various findings in this field is in accord with modern scientific thought; common fallacies in regard to urea and ammonia excretion, in regard to the appearance of rarer nitrogenous excreta, are exposed and correct explanations given in their place. The clinical significance of the aromatic urinary radicals, and the factors that operate to cause their excretion are fully explained; these paragraphs make very interesting reading. No objection can be formulated against the ideas expressed in regard to the significance of the uric-acid excretion and of the metabolism of the whole purin group. The chapter on urine essentially represents a concise section in metabolism and its disorders in so far as the latter become manifest in perversions of the urinary excreta.

The chapter on blood is profuse, with good plates and illustrations, and incorporates the best and simplest methods of blood analysis, morphologic, biologic and chemical. All that is of practical value in the physiology of the blood prefaces the remarks on blood pathology, so that a clean-cut basis for comparison is given, both in regard to the anatomic, i. e., structural, changes of the blood and in regard to the perversions of its functions. Similar praise can be bestowed on the sections on the feces, the gastric contents, the sputum, the secreta of various orifices of the body and the purely descriptive chapters on human parasites.

What is known in regard to functional diagnosis is duly incorporated in its proper place; the attitude of skepticism expressed particularly in regard to the value of some of the tests in vogue for renal inadequacy is justified: the methods are merely described for what they are worth, and the hint is given, rightly, that from the clinical standpoint, at least, they are not worth much.

Both as a reference handbook and as a text-book for continuous reading for the research worker, as well as for the medical student and the practitioner, this book should prove of much value. It is one of the best of its kind in any language.

THE PRINCIPLES OF PATHOLOGY. By J. George Adami, M.A., M.D., LL.D., F.R.S., Professor of Pathology in McGill University, Montreal, and Albert G. Nicholls, M.A., M.D., D.Sc., F.R.S., Assistant Professor of Pathology and Lecturer in Clinical Medicine in McGill University. Vol. II. "Systemic Pathology." Cloth. Pp. 1064, with 310 engravings and 15 plates. Price, $6 net. Philadelphia: Lea & Febiger, 1909.

In this volume of over a thousand pages is continued the work begun by the senior author in the first volume on special pathology. The unusual character of the general pathology is not so evident in this volume, which is to be expected from the nature of the subjects under consideration. Being written by two men with marked difference of style, the work is very uneven: this is the common fault with books constructed by two men, that they lack the cohesion and uniformity of books written by a single author, without securing the thorough mastery of each topic which is obtained in works written by many well-selected specialists.

As being the largest and most pretentious work ever published in English, this is undoubtedly the best book on special pathology available to those who cannot read German. But having aimed so high, the authors and publishers cannot complain if their product is compared with the best of the foreign pathology, rather than with its English and American predecessors which are mostly expanded quiz compends and not serious attempts at exhaustive treatises on pathology. Our pride of race is sufficient to make us wish we could say that this American production is the best in any language, but this we cannot honestly do. Compared with the most recent German texts it may excel them somewhat in its discussion of certain aspects of pathologic physiology, but it is far short of them in systematic arrangement, in illustrations, in bibliography, and above all in wealth of facts and concise thoroughness of exposition. A tremendous diffuseness of language prevails, and at times seems to be substituted for facts that the reader desires to secure. Omissions of important details are common, and often are too serious to be fully atoned for by the interesting suggestion or capable discussions of disputed points with which the book abounds. It can, indeed, be said that few topics are exhaustively covered. The illustrations are not numerous, a few are excellent, many of the microphotographs will fail entirely to convey any idea of the structure represented to the untrained eyes of those for whom the book is intended—this, in fact, is the common condition of text-book illustrations from microphotographs.

The bibliography is not at all complete, and contains among valuable references also references to articles of little moment which seem to have been included chiefly for local reasons. In the present day no book can claim standing as a work of reference which does not indicate intelligently where one may go to get the best first-hand accounts by those who have made special study of each and every topic under discussion. In this book, not only are the references scanty and incomplete, but much important modern work has failed to receive proper recognition in the text.

In spite of all these drawbacks which must arouse sincere regret in those who have long been waiting for an American pathology that should be the equal of the best, yet the fact remains that this is the best book now available for the student and practitioner who is limited to English for his reading, and it has many points of merit. It is nearly always accurate, its faults being more of omission than of commission, and it is more readable than the average book of the kind. The relation of the physiologic and pathologic behavior of the different organs is kept in mind more than is usual. There are also many original ideas and suggestions, some of great value, which cannot be found in any other place.

A PRACTICAL STUDY OF MALARIA. By William H. Deaderick, M.D., President of the Tri-State Medical Society. Cloth. Pp. 396, with illustrations. Price, $4.50 net. Philadelphia: W. B. Saunders Co., 1909.

This is more than an excellent compilation of what is known of the subject, for the knowledge is carefully filtered and weighed by one who is familiar with the disease in its various phases.

If any criticism is to be made of this excellent book it is that sometimes quotations from others are too long. They are so well selected, however, that one cannot find serious fault with them. Moreover, they have the advantage of enabling the reader to get his information at first hand and not from abstracts. The long key to mosquitoes of North and Central America taken from Coquillett's classification and descriptions prepared for and published by the United States Department of Agriculture might well have been omitted, for it can be readily procured by any one desiring it. The description of the parasite in all its varied forms and phases is full and accurate. This constitutes one of the most interesting portions of the book.

The author describes fully the gross and histologic pathology of malaria. The chapter on this subject is illustrated by excellent plates copied from Kelsch and Kiener, and from Werner. Unfortunately, no direct reference is made in the text to these illustrations; no description is given of what they illustrate; even the numerous references given on the original plates are here omitted. This lessens their value and makes them seem less related to this book than ought to be the case.

The clinical history of malaria in all its varieties and with all its complications is fully considered, and the important paramalarial condition, hemoglobinuric fever, is also described and discussed fully. As would be expected, the technic of making blood-smears and staining and examining them is described and illustrated fully. The importance of blood-examinations for a diagnosis is dwelt on, but the difficulty of obtaining positive results in such examinations is not minimized. Also, as would be expected in so exhaustive a treatise, the various preparations of quinin are studied statistically and the best are pointed out. The value of substitutes is carefully estimated. The best method of administering drugs, the dosage and time of administration, are fully considered. The chapter on prophylaxis is one of the most interesting and practical.

The book as a whole is commendable, well written and interesting. The illustrations are numerous and well selected, and include portraits of Laveran and Ross. It is instructive and interesting thus to become acquainted with investigators who have done so much in unraveling the problems of malaria.

DISEASES OF THE NOSE, THROAT AND EAR. By Charles Huntoon Knight, A.M., M.D., Professor of Laryngology, Cornell University Medical College, and W. Sohier Bryant, A.M., M.D., Consulting Otologist, Manhattan State Hospital. Second Edition. Cloth. Pp. 609, with 239 illustrations. Price, $4.50 net. Philadelphia: P. Blakiston's Son & Co., 1909.

This work consists of a new edition of Knight's "Diseases of the Nose and Throat," with a new section on "Diseases of the Ear," by Bryant. The new edition of the section on "Diseases of the Nose and Throat" differs from the old, chiefly in the addition of new material on the subjects of deviated septum and accessory sinus diseases. The section on "Diseases of the Ear" comprises 219 pages, of which 87 pages deal with the anatomy and physiology. The portion on the anatomy of the external and middle ear is well written, and the illustrations are fairly good. In the discussion of the histologic structure of the membranous labyrinth some statements are made that are not in accordance with the generally accepted views. For instance, quoting from page 463, "the so-called tectorial membrane of the organ of Corti is an artifact of long hairs of neuro-epithelium of the organ of Corti."

The diseases of the middle ear are covered in 17 pages. The author recognizes two main groups of middle-ear: inflammation and atrophic changes. Under the latter the author includes "what has been called chronic middle-ear catarrh and otosclerosis and also tympanic atrophy following purulent otitis media." It is further stated that the complication to be feared is possible involvement of the labyrinth due to the extension of the atrophic condition of that organ." According to the last edition of Politzer's "Diseases of the Ear," recent pathologic investigations have demonstrated beyond doubt that otosclerosis is a primary disease of the labyrinthine capsule.

A chapter is devoted to aural surgery. The discussion of the different operative procedures are lacking in systematic description and important detail. Some of the illustrations are excellent.

Die Serodiagnose der Syphilis. By Dr. Carl Bruck, Privatdozent and Oberarzt of the Dermatologische Universitätsklinik in Breslau. Paper. Pp. 166. Price, 4.80 marks. *Berlin: Julius Springer*, 1909.

Bruck's monograph is a masterly presentation of all the work done by him in collaboration with Wassermann and Neisser in developing the complement-fixation method.

The author reviews the literature on the subject up to September, 1909, and insists that all the modifications of the method are unreliable and should not be permitted to replace the original Wassermann-Neisser-Bruck technic, and he considers it essential to confine it to special institutes in the medical centers only, as has been done already in Vienna, as well as to specially trained men, to prevent the numerous possibilities of error in interpretation. The original method is described in detail. Bruck attributes all positive reactions in other diseases than syphilis, framboesia tropica and leprosy to faulty technic. The author admits that the reaction is not biologically specific, however. A positive reaction may not usually be expected before the sixth week after infection, and indicates the generalization of the virus. During the secondary stage, 94 per cent. of all cases give a positive reaction after specific treatment indicates the destruction of the virus, and repeated tests should be made to ensure the permanence of the negative reaction. In the later stages, a positive reaction is also an indication for treatment, but a permanent negative reaction is more difficult to obtain. In the primary stage, the finding of *Spirochætæ pallidæ* is sufficient to begin specific treatment. If no spirochetes have been found, a positive serum reaction may be expected six weeks after the infection, which indicates antisyphilitic treatment before secondaries appear. A permanent negative reaction is obtained more easily by early treatment.

A Text-Book of Experimental Physiology for Students of Medicine. By N. H. Alcock, M.D., and F. O'B. Ellison, M.D. Preface by E. H. Starling, M.D. Cloth. Pp. 139, with illustrations. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co., 1909.

The present work is called an attempt to put into practice "the syllabus of practical physiology of the University of London. It is a laboratory manual and is designed, as is indicated in the preface "more in accordance with the actual requirements of the student of medicine" than as a laboratory guide to general physiology. The subjects dealt with are the physiology of muscle, digestion, respiration, circulation, the blood, secretion of urine, temperature, nervous system and special senses. The topics and experiments are well chosen and there are 36 helpful illustrations in the text. Few of the experiments are complicated and many of them have some practical bearing on questions encountered later in the medical course. Of recent years the subject of physiology has grown to such immense proportions that it is impossible to include the entire subject in the medical curriculum. It has thus become a question with authors of text-books on physiology and teachers of physiology just how much and what were good to give a student of medicine. In so far as the laboratory work is concerned (and this has grown to be one of the most important practical parts of the subject) the present volume shows an excellent selection and limitation of topics and is a good answer to this question.

Renal, Ureteral, Perirenal and Adrenal Tumors and Actinomycosis and Echinococcus of the Kidney. By Edgar Garceau, M.D., Visiting Gynecologist to St. Elizabeth's Hospital, and to Boston Dispensary, Boston, Mass. Cloth. Pp. 404, with 72 illustrations. Price, $5. New York: D. Appleton & Co.

The book contains the following chapters: (1) solid tumors of the renal parenchyma; (2) embryonic tumors; (3) tumors of the renal pelvis and ureters; (4) polycystic kidney; (5) simple serous cysts of the kidney; (6) perirenal tumors; (7) adrenal tumors in adults; (8) adrenal tumors in children; (9) actinomycosis of the kidney; (10) echinococcus of the kidney; (11) determination of renal efficiency. The longest chapter is the first, which deals with the solid tumors, in which are included hypernephroma, carcinoma, sarcoma, and malignant adenoma, as well as benign tumors. The etiology, pathology, anatomy, symptoms, diagnosis, and treatment of the various tumors and other conditions considered are fully and clearly discussed. In connection with hypernephroma, embryonic tumors and adrenal tumors in children are given instructive tables of cases. The illustrations are satisfactory; possibly those of carcinoma of the renal parenchyma leave something to be desired in clearness. The book is well written and gives a valuable presentation of the principal facts in regard to the conditions discussed.

Handbook of Therapy. Cloth. Price, $1.50. Pp. 421. *Chicago: American Medical Association*, 1910.

This handbook has been compiled from articles which have appeared in the department of therapeutics of The Journal. The usefulness of the book for reference has been increased by the addition of tables of weights and measures, lists of latin terms and abbreviations, poisons and their antidotes and treatment in brief, synonyms, and "New and Nonofficial Remedies" that have been passed on favorably by the Council on Pharmacy and Chemistry. Under the head of general diseases various topics are discussed briefly, such as diet in typhoid fever, alcoholic cerebral edema, tobacco, snake poisoning, illuminating gas poisoning and a number of others. Under the head of the various systems, as the digestive, respiratory, circulatory, etc., various diseases are taken up and valuable suggestions given in the way of prescriptions and directions for their general management. Diet and physical remedies are treated briefly, and following this, systemic remedies, hypnotics, circulatory depressants, alkalies, cathartics, antiseptics, etc., though only a few under each class are described. The book closes with a brief chapter on proprietaries versus U. S. P. and N. F. preparations.

Diseases of the Ear. By Edward Bradford Dench, Ph.B., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College. Cloth. Pp. 696, with 158 illustrations in text and 9 plates. Fourth Edition. Price, $5. New York: *D. Appleton & Co.*, 1909.

During the six years that have elapsed since the appearance of the last edition of this work, the most marked advances in otology have been made in the physiology and the pathology of the internal ear, the surgery of labyrinthine disease and of intracranial lesions of otitic origin. In the new edition will be found a description of the recent investigations for the examination of the static function of the labyrinth. The technic of the operative treatment of labyrinthine suppuration has been considered in detail. The chapters dealing with brain abscess and intracranial surgery are practically new and give the results of the clinical experience of the author and numerous other observers.

New material has been added on various subjects throughout the text, which brings the work thoroughly up to date. The new material is of the same high standard that has characterized the former editions of this well-known text-book.

A Text-Book on the Practice of Gynecology. By William Easterly Ashton, M.D., LL.D., Fellow of the American Gynecological Society. Fourth Edition. Cloth. Pp. 1099, with illustrations. Price, $6.50 net. Philadelphia: W. B. Saunders Co., 1909.

In this new edition alterations have been made in the chapter on ectopic gestation. The subject of tuberculosis of the genital organs has been revised and additions made to the treatment of cystitis. Several changes have been introduced in the technic of abdominal and pelvic operations. In those pages devoted to the pathology of shock, to peritonitis, and to movable kidney, the subject matter has been brought up to accord with the results of most recent experiments. Some change is noticed also in the operative management of suppuration of the pelvic connective tissue, emphasis being placed on evacuation of pus by vaginal section.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Sixth Edition. Cloth. Pp. 953, with 847 illustrations. Price, $5. *Philadelphia*: W. B. Saunders Co., 1909.

This edition has been reedited throughout; new illustrations have been added and many older ones removed. It is a satisfaction occasionally to see an author replacing some old-time illustrations with others more true to life and more nearly representing the subject to be illustrated. The author has taken the stand that obstetrics and gynecology should be united; that the obstetrician should be a gynecologist. He says in his preface that panhysterectomy for chorio-epithelioma is as much of an obstetric operation as the application of forceps. Most text-books mention that certain operations should be done for conditions incident to childbirth, but they give no idea of how this operation should be done or the technic of its performance. This work, however, includes the operation and technic of pelvic surgery, which certainly renders it most valuable. To the specialist in obstetrics, the general physician or the student this work is to be highly recommended.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College. Ninth Edition. Cloth. Pp. 1326, with illustrations. Price, $5.50 net. Philadelphia: W. B. Saunders Co., 1909.

By a careful revision with exclusion of more or less obsolete matter, the new edition has been brought up to date without any material increase in the size of the volume. The attention given to diagnosis makes the work valuable to the practicing physician. The newer methods are generally referred to, but the technic is reserved for special works. The more modern methods of treatment are represented, but while condensation is absolutely necessary in such a work, we believe that most readers will be disappointed to find so little discussion of such important subjects as tuberculin therapy and pellagra. The information given is sometimes so incomplete as to be of little use. For instance, on page 947 occurs the sentence. "Walko regards the muscle-nucleus test as being of diagnostic value." Recent text-books on diagnosis do not index the "muscle-nucleus test." The book gives no reference by which a description of the test could be found. In spite of these criticisms we must accord the work a high rank among treatises on the practice of medicine.

THE DISEASES OF CHILDREN. By Henry Enos Tuley, M.D., Professor of Obstetrics, University of Louisville, Medical Department. Cloth. Pp. 631, with illustrations. Price, $5. Baltimore: Southern Medical Pub. Co., 1909.

This book begins with chapters on the anatomy, physiology and hygiene of infants. Methods of examination are clearly explained and methodical consideration of each disease of childhood follows, giving both in the text and in the appendix standard formulas used in pediatrics. Chapters on the nose and throat, the ear, and the eye are included. The chapter on infant feeding is particularly full and satisfactory. The section on malaria is noteworthy because of its thorough historical paragraph. The book is well printed, usefully arranged, and can be commended.

SPRAINS AND ALLIED INJURIES OF JOINTS. By R. H. Anglin C., F.R.C.S., Honorary Surgeon to the Rad- ity Hospital at Oxford. Cloth. Pp. 241, Price $3. New York: Oxford University

The chief points of importance emphasized in this little volume are (1) the necessity of examining patients with injuries to the joints more carefully in order to differentiate the simple sprains from those complicated slight fractures which often are recognizable only by the use of the *x*-ray; and (2), the use of fixation in fracture-sprains, whereas the simple sprains should be treated by massage and early active motion of the joints. These points the author brings out quite clearly in a simple though practical manner.

A MANUAL OF OTOLOGY. By Gorham Bacon, A.B., M.D., Professor of Otology in the College of Physicians and Surgeons, Columbia University, New York. Fifth Edition. Cloth. Pp. 492, with 147 illustrations and 12 plates. Price, $2.25. Philadelphia: Lea & Febiger, 1909.

Bacon's "Manual of Otology" continues to be a popular textbook, brevity combined with clearness of description making it especially well adapted to the needs of the student. The subject of otology is covered as thoroughly as by many much larger works. Addition of new material and revision of the old brings this work thoroughly up to date without greatly increasing its size.

A MANUAL OF NATURAL THERAPY. By Thomas D. Luke, M.D., F.R.C.S., Physician at the Peebles Hydropathic. Cloth. Pp. 295, with 125 illustrations. Price, $2.50: New York: William Wood & Co.

While all may not agree as to the appropriateness of the title of this book, it forms a convenient term under which to group the non-medicinal measures used in the treatment of disease. The subjects included are hydrotherapy, thermotherapy, phototherapy, massotherapy, electricity and dietetics. The various technics are described and well illustrated.

# Medicolegal

### Damages for Injury to Artificial Anus—Exhibiting Injured Parts to Jury and What Not Indecent Evidence—Second Examination Not Required

The Supreme Court of Washington says that the case of Dunkin vs. City of Hoquiam (105 Pac. R., 149) was brought to recover damages for personal injuries alleged to have been sustained by the plaintiff in being thrown from a bicycle by an obstruction in a street along which he was riding one evening in September, 1908. Now about 29 years of age, his evidence tended to show that in 1900 he contracted the yellow fever, which resulted in the closing of the lower bowels, since which time he had an artificial anus, which he could partially control. The testimony of a physician showed that he examined him in January, 1901; that the artificial anus was then in good condition, the projection of the bowel being about one-twelfth of an inch; that he next examined him about two years before the trial, his condition then being about the same as when he made the former examination, and that he was then in good health; that he examined him at the time of the trial, and found that seven or eight inches of the lining of the bowel protruded from the side: that he had no control over the bowel; that he was not able to do any kind of work; that he was in constant pain; and that the injury would increase as time progressed. On this evidence it seemed certain that the jury did not award excessive damages in rendering a verdict for $7,500, judgment on which, in the plaintiff's favor, is affirmed.

Nor does the court think that it was error to permit the plaintiff to twice exhibit the injured part to the jury. This was urged as error on two grounds: (1) That it had a tendency to enlist the sympathy of the jury: and (2) that it was indecent. On the first contention the court assumes that, had the injury complained of been a broken leg or arm, the contention would not be tenable. The fact that the injury occurred to some other part of the body would not change the rule of evidence. This court apprehends that no court would permit the introduction of indecent evidence unless it was so connected with the res gestæ or essential facts of the case as to become necessary to the administration of justice. Indecency depends on the purpose of the utterance or act. "What we are to conclude, then, since the progress of investigating the truth in courts of justice is both an indispensable and a dignified function in life, is that no utterances or acts called for in evidence in that process are to be prohibited because under other circumstances they might be characterized by indecency. In other words, the general policy of dicountenancing indecency does not extend to the exclusion of evidence in a court of justice." 3 Wigmore on Evidence, section 2180.

The court sees no error in a ruling sustaining an objection to a question asking the plaintiff, on cross-examination, if he was not drawing a pension for total disability at the time of receiving the injury, where the object was to show, not that he was suffering from a total disability before the accident, but rather that, owing to his physical condition, it was negligence for him to have ridden a bicycle in the dark without a lantern, and that his ailment was not increased by reason of the accident. What was claimed to be the medical examination and physician's certificate made, in February, 1901, in the pension matter, were inadmissible in evidence as too remote in point of time and because the certificate of the medical examiner was hearsay.

Prior to the trial the trial court appointed certain physicians to examine the injuries sustained by the plaintiff, and they examined him. During the trial the defendant asked the court to require the plaintiff to submit to a further examination by one of these physicians. The court refused to do so. There was no error in this. The authorities cited were cases where there had been no previous examination.

### Officials Legally or Negligently Discharging Patient from Insane Hospital Are Not Liable for Crime Subsequently Committed by Him

The Supreme Court of North Carolina had, in Bollinger vs. W. P. Rader and others (66 S. E. R., 314), a case which embraced among the defendants the superintendents and three directors of a state hospital for the insane and wherein it was complained that a patient named Lonnie Rader had been negligently discharged and some six months afterwards, while insane, killed a girl, described as "the plaintiff's intestate." The complaint was demurred to on the ground that it did not state a cause of action against the defendants individually or collectively in that it appeared from it that said defendants held the official positions above mentioned; that it was by virtue of their said offices and while acting within the scope of authority conferred by law that they discharged or released the said Lonnie Rader, and that the four defendants referred to were by section 4560 of the Revisal of North Carolina Statutes of 1905 exempted from all personal liability for the alleged acts and omissions complained of.

Section 4560 referred to is a portion of the statute under which the hospital was created, organized, and now exists. It provides that: "No director or superintendent of any state hospital shall be personally liable for any act or thing done under or in pursuance of any of the provisions of this chapter." Section 4596, under and by virtue of the authority conferred by which the discharge was made, provides: "Any three of the board of directors of any hospital . . . shall be a board to discharge or remove from their hospital any person admitted as insane when such person has become or is found to be of sane mind, or when such person is incurable, and, in the opinion of the superintendent, his being at large will not be injurious to himself or dangerous to the community; or said board may permit such person to go to the county of his settlement on probation, when, in the opinion of said superintendent, it will not be injurious to himself or dangerous to the community, and said board may discharge or remove such person on other sufficient cause appearing to them."

Under these circumstances the court thinks that the defendants' demurrer was properly sustained, on the ground stated, and judgment rendered for them.

But what is of still more general interest, the court adds that it does not seem to it that the discharge of Lonnie Rader on March 5th, even if negligently made, was the proximate cause of the death of the girl, which occurred September 13th following. The allegation was in the nature of "Post hoc, ergo propter hoc" (after this, therefore on account of this). The defendants could not, by the exercise of ordinary care and caution, have anticipated, foreseen, or expected that the death of the plaintiff's intestate would follow as the natural result of their act in discharging Rader from the hospital. Their erroneous or mistaken opinion or judgment that Lonnie Rader was sane, or insane, that his being at large would not be injurious to him or dangerous to the community, or that there were other sufficient reasons why he should be discharged, and their act in discharging him, did not cause her death. It might be that, if they had kept Rader confined in the State Hospital, he might not have killed her; but it was equally true that if he had never been born, or had never become insane, he would not have killed her. The discharge of Rader, his absence from the hospital, his presence in Catawba county, and his presence at church on the day of the homicide, was a mere condition which accompanied, but did not cause the injury.

### Validity of Law Requiring Proper Factory Ventilation—Against Whom it May Be Made Enforceable

The First Appellate Division of the Supreme Court of New York says, in People, on the relation of Williams, Commissioner of Labor, vs. Eno (119 N. Y. S., 600) that section 86 of the New York labor law, as amended in 1907, provides that: "The owner, agent or lessee of a factory shall provide, in each workroom thereof, proper and sufficient ventilation; if excessive heat be created or if steam, gases, vapors, dust or other impurities that may be injurious to health be generated in the course of the manufacturing process carried on therein, the room must be ventilated in such a manner as to render them harmless, so far as practicable; in case of failure the commissioner of labor shall order such ventilation to be provided. Such owner, agent or lessee, shall provide such ventilation within twenty days after the service on him of such order, and in case of failure, shall forfeit to the people of the state ten dollars for each day after the expiration of such twenty days, to be recovered by the commissioner of labor."

It is clear that the law was passed by the legislature in the exercise of the police power of the state, and that it tends "in a degree that is perceptible and clear towards the preservation of the lives, the health, the morals or the welfare of the community," and so is a valid exercise of the police power within the principles thoroughly established in New York state.

When it is admitted that the subject-matter of the act comes within the exercise of the police power by the Legislature, it was for that body to determine the most efficacious way to insure its enforcement. It has determined that, when an owner of a building turns it into a tenant factory a defined by the law, that owner shall be held responsible i defined particulars for the observance of this health law, an by specific provisions has conferred on him opportunity an power to observe those provisions by right of entry, and, i necessary, dispossess proceedings. It has in terms also mad the tenant responsible. Whether the public officer charge with the enforcement of the law should proceed against tl owner, or the tenant, or both, is a matter of administratic of the law, with which the court has nothing to do. It is r answer for one person, who is made responsible by law for a existing condition, to say that another person is also respoı sible, and should be proceeded against.

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# *Current Medical Literature*

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### Medical Record, New York

*March 5*

1 *Phases of the Evolution of Modern Preventive Medicine, a Illustrated by the Present Campaign against Tuberculosi G. S. Woodhead, Cambridge, England.
2 *Special Features in Symptomatology and Pathology of Anemi of the Central Nervous System. S. Leopold, Philadelphi
3 *The Splashing Sound of the Stomach. J. W. Weinstein, Ne York.
4 *Successful Treatment of Specific Salpingitis with *Gonococcu* Vaccine. A. L. Tuttle, Milford.
5 *Surgical Accident Necessitating Intestinal Resection. E. H Eising, New York.

1. **Prevention in Tuberculosis.**—It is pointed out by Woodhead that the aim of those interested in preventive medicin is to "corral" the tubercle bacillus. As in the case of typhoi carriers and lepers we have to devise some practical and practicable method of dealing with each set of cases, and even with each case as it arises and it is for this reason that the work of the tuberculosis dispensaries has been attended with such a large measure of success. The medical men and their assistants in these dispensaries, from one case are able to trace others. They come across cases of tuberculosis in all stages of development, and among all sorts and conditions of men, they weigh up the possibilities of treatment in various individual circumstances, and having adopted the treatment that seemed best to meet the conditions and necessities of the case, they are able to provide a resting place in which the poor wornout worker can end his days in comparative peace and comfort without being a danger to his fellows. They are able to train the patient suffering from incipient phthisis in cleanly and in effective and safe methods of disposing of his sputum, etc. So that should all efforts at cure be unavailing, the patient, even in the most infective stages of his disease, by the care he exerts, is able to reduce the danger of infection from himself to others to a minimum. From all

this it is evident that we must make use of those means which come most readily to hand and which, at the same time, appear to meet most closely the exigencies of any special case.

2. **Anemia of the Central Nervous System.**—Leopold reports six cases of anemia of the central nervous system, resulting in sclerosis of the cord. The onset of the disease is gradual. The symptoms are very variable, as are the changes in the spinal cord. Sometimes the posterior columns are involved, sometimes the lateral tracts are added; again there is a diffuse sclerosis of the entire cord. Paresthesia and ataxia may persist for years with few changes in the cord, or the intensity of the alterations may be much greater than the clinical symptoms. The mental state may be dull and inattentive, and there may be various muscular palsies of eye muscles or face. But the spinal cord muscles predominate over those of the brain.

3. **Splashing Sounds of the Stomach.**—Weinstein holds that a splashing sound in the stomach may be obtained in any case in which there is fluid present with gas in the stomach, when the abdomen is tapped or shaken. Such a stomach is not necessarily the seat of atony. If the sound is obtained when the stomach should be empty it may show pyloric obstruction. If it is found over the normal area of the stomach it indicates a condition to be referred to that viscus, while if found lower down it is due to the same conditions located in the colon. After lavage this sound will show that the stomach is not yet empty. When the patient himself observes the splashing, the stomach is generally atonic.

4. **Gonococcus Vaccine in Specific Salpingitis.**—A case of gonorrhea of the genital organs, including inflammation of the adnexa, was treated by Tuttle with large doses of vaccine, with complete restoration of health after a month. The patient gave birth to a healthy child after her recovery.

5. **Surgical Accident Necessitating Intestinal Resection.**—Eising describes a case of curetting in which the instrument penetrated the wall of the uterus and drew down a loop of ileum destroying the mesenteric connections so that an anastomosis had to be done.

### Boston Medical and Surgical Journal

*March 3*

6 *The [illegible]henia. P. C. Knapp, Boston.
7 [illegible] F. H. McMechan, Cincinnati.
8 [illegible] W. P. Manton, Detroit.
9 Place of Braces in Treatment of Weak, Pronated and Flat Feet: Special Reference to a Simple Method for Preparation of the Plaster-of-Paris Casts on Which they are Fashioned. A. M. Forbes, Montreal.

6. **Rehabilitation of Neurasthenia.**—The authors emphasize the necessity of a distinction between *folie du doute* and neurasthenia, and hold that the real essence of neurasthenia as a state of exhaustion should be maintained. Too much emphasis has been laid on the psychical element in neurasthenic conditions, and the encouragement which has thus been given to the mob of charlatans who are so vociferous and ignorant in the advocacy of some new cult of psychotherapeutics, not only by incompetent physicians, but even by some who ought to know better, is much to be deplored. While the psychical element in neurasthenia is not to be neglected, and while an intelligent psychotherapy is often to be employed, it must be recognized that there is a real nervous exhaustion in many cases which demands the best therapeutic efforts on the physical side. It is absurd to lump all the cases together under the one vague heading of psychoneurosis. We must analyze cases more deeply and determine to the best of our ability how much is due to physical causes, how much to morbid psychical processes, and whether the psychical disturbance is the cause or the result of the neurasthenic state.

### New York Medical Journal

*March 5*

10 *The Painful Uterus and its Autonomic Relations. C. A. L. Reed, Cincinnati.
11 *Sanitary Housing for Tuberculous Families. H. L. Shively, New York.
12 Gumma of the Dura Indenting the Left Hemisphere of the Cerebellum, with Autopsy. B. R. Tucker, Richmond.
13 Multiple Exostoses Coupled with Syringomyelia. C. P. Oberndorf, New York.
14 *School Dentistry Hysteria. S. W. Newmayer, Philadelphia.
15 Visceral Angioneurosis. S. S. Cohen, Philadelphia.
16 Recurrent Dislocation of the Patella. S. Tousey, New York.
17 Hemorrhagic Pericarditis. C. W. H. Mitchell, Columbia, Mo.
18 *Effective Treatment of Pompholyx. G. E. Barnes, Herkimer, N. Y.

10. **The Painful Uterus and Its Autonomic Relations.**—Reed emphasizes the fact that the uterus itself, independently of its adnexa, may be the seat of pain—a commonplace which seems to be overlooked if we may judge from the frequency with which the diseased uterus is left behind after the diseased appendages have been removed; the autonomic manifestation of uterine pain; and the method of its control. Reed employs the term "painful uterus" to designate a uterus that is the seat of pain which, in turn, depends for its causation on conditions either within or related to the organ itself, and, furthermore, to designate pain that originates within the uterus, whether that pain is manifested directly at its point of origin, that is, within the uterus, or is referred to some superficial area. The treatment of the painful uterus must be based on the principle that the logical cure of any pain must begin by removing the cause of that pain. Thus, cystic nabothian follicles should be destroyed, preferably by the cautery; varices of the pampiniform plexus should be broken up by ligating the veins in the broad ligaments; displacements should be overcome by surgical treatment addressed to the suspensory apparatus of the uterus; myomata and polypi should be removed when possible without removing the uterus, polypi always, but hysterectomy is demanded when the condition cannot be otherwise eliminated. This, likewise, is the only curative treatment of diffuse fibrosis. Chronic atrophic parametritis also demands the removal of the organ. Reed says that in all operations for the removal of infected uterine appendages associated with acute infectious parametritis, the uterus should be removed at the time of the first operation—the justification of the step being found in the uniformity with which the atrophic change follows the acute infection. Visceral pain, so far as the abdomen, pelvis and thorax are concerned, is expressed chiefly but not exclusively in the autonomic algetic areas in the protective walls covering the respective viscera, such algetic areas corresponding in extent with the peripheral distribution of the autonomic nerves coincidently with the peripheral distribution of the respective spinal nerves in the muscles and subserous connective tissue. These distributions can generally be determined clinically by determining the area of parietal hyperalgesia. The pain itself, consisting chiefly of hyper-excitation of muscle irritability, can be proportionately, and, as a rule, entirely, inhibited by inhibiting the muscle sensibility in the hyperalgesic areas.

11. **Sanitary Housing for Tuberculous Families.**—Shively describes the tenements now being constructed in New York by Mrs. W. K. Vanderbilt which will house only persons afflicted with tuberculosis.

14. **School Dentistry Hysteria.**—Newmayer considers the various phases of dental conditions found in school children; the methods of examination as now practiced; the reasons for not obtaining practical results, and the seeming impossibility of the work.

18. **Effective Treatment of Pompholyx.**—The first purpose of treatment, according to Barnes, is to free the skin of these foreign bodies and this can be done by passing with sufficient pressure the back of a knife over the diseased surfaces until every vesicle is burst. Then the abraded areas should be washed with sterile water and soap to remove all adhering serum. A weak solution of lead, zinc, or bichlorid of mercury may or may not next be applied. The denuded spots usually heal after the cleansing, but it is well, especially when the disease is extensive, to bathe them with weak bichlorid of mercury solution for its antiseptic as well as astringent action. The parts should finally be protected with a dry sterile dressing. As new vesicles appear from day to day they should be treated in the same manner. After a few days the involved surface becomes covered with a thick, shiny, parchment-like skin which is apt to crack and to improve very slowly. Oleum cadini, from one-half to one dram to the ounce, in some simple vehicle like petrolatum and lanolin, thoroughly applied once or twice daily will stimulate and soften the skin so that it will soon become normal. The

invariable accompaniment of this treatment of pompholyx should be its constitutional treatment.

### Medical Fortnightly, St. Louis

*February 10*

19 Early Diagnosis of Pulmonary Tuberculosis. T. Y. Hull, San Antonio, Tex.
20 Stricture of the Male Urethra. E. O. Smith, Cincinnati.
21 Foreshadowing of Democracy in American Medical Association. G. F. Lydston, Chicago.

*February 25*

22 *Value of Surgical Celerity. C. Blickensderfer, Shawnee, Okla.
23 *Tendency of Modern Surgery. J. M. Inge, Denton, Tex.
24 Vaccination, Vivisection and Egotism. C. H. Hughes, St. Louis.

22. **Value of Surgical Celerity.**—Blickensderfer declares that rapid surgery depends for its success on a true knowledge of anatomy, structural relations and physiologic phenomena; a correct diagnosis; a proper appreciation of the patient's condition, and the ability to use, to many purposes, a few instruments, where many are generally required.

23. **Tendency of Modern Surgery.**—Inge believes that at least 30 per cent. of surgery is unnecessary and unwarranted. In this he includes minor and major operations, such as curettage without pathologic warrant, repair of the ordinary torn cervix; amputation of the cervix, repair of the relaxed vaginal outlet without visible impairment of function. The many operations for retropositions of the movable uterus, operations for so-called cystic degenerations of the ovaries, a condition which, he says, is found in almost all female cadavers, and which is physiologic and not pathologic, the removal of the uterus for prolapsus and small fibroids. The fixation of the palpable right kidney which is so common in women that depending on the personal equation of the operator, it can be found in from 10 to 30 per cent. of women. The remedy for such conditions in his opinion, is a frank, open discussion before medical associations and through medical journals by means of which the profession may be made to see the importance of a more rational and broader view of the true situation.

### Ohio State Medical Journal, Columbus

*February*

25 Heart Tones and Heart Murmurs. J. E. Greiwe, Cincinnati.
26 The Factors of Safety in Abdominal Operations. G. W. Crile, Cleveland.
27 Acne Vulgaris: With Special Reference to its Etiology and Treatment. W. O. Roop, Dayton, Ohio.
28 *Etiology and Treatment of Acne Vulgaris. W. E. Sampliner, Cleveland.
29 Psychasthenic States. W. D. Deuschle, Columbus.
30 Ocular Symptoms of Arteriosclerosis. W. E. Bruner, Cleveland.
31 One Thousand Recorded Obstetric Cases without Maternal Mortality. A. Gaither, Cincinnati.

28. **Acne Vulgaris.**—It is not the number of remedies that are used which give the best results, but the thorough understanding of the method of application of those we do make use of, which counts the most in the successful treatment of this disease. The reaction of the skin must be carefully watched and the treatment varied to suit the conditions. When the lesions are somewhat indurated, the use of the actinic lamp twice weekly for periods of from 15 to 30 minutes has given Sampliner excellent results as a supporting measure. For the deeper indurations the *x*-ray has given good results, and by many dermatologists this is the method of choice. It is, however, in the long run, no more successful than some of the older methods, and should be reserved for those cases which are obstinate to other forms of treatment. The injection of vaccine made from dead cultures of the acne bacillus and the staphylococcus suspended *in salt solution* has given good results, and in Sampliner's opinion, should be given the preference over the *x*-ray. On the whole, the reports of cases treated by vaccine therapy show it to be a method that is well worthy of a careful trial in rebellious cases.

### Denver Medical Times and Utah Medical Journal

*February*

32 General Etiology of Uroureter. B. Robinson, Chicago.
33 Report of Six Cases of Ludwig's Angina. J. Lindahl, Denver.
34 Cutaneous Blastomycosis. A. J. Markley, Denver.
35 Epilepsy: Case Cured by Oöphorectomy. H. R. McGraw, Denver.
36 Therapeutic Fads and Fancies. F. Clift, Provo, Utah.
37 Value of Early Diagnosis in Treatment of Epidemic Cerebrospinal Meningitis. R. C. Smedley, Salt Lake City.

### Journal of the Indiana State Medical Society, Fort Wayne

*February*

38 Acute Dilatation of the Stomach. E. Walker, Evansville.
39 *What the General Practitioner Should Know about Mastoiditis. A. E. Bulson, Fort Wayne.
40 Treatment of Pancreatitis. J. C. Sexton, Rushville.
41 Acute Dilatation of the Stomach: Treatment. E. D. Clark, Indianapolis.
42 Sketches of the Medical History of Indiana (continued). G. W. H. Kemper, Muncie.
43 Eyestrain Due to Accommodation. L. Leeds, Richmond.

39. **Mastoiditis.**—That every general physician should consider a persistent earache as significant and not pass it over with a prescription for a local application of laudanum and sweet oil, or, what is worse, a prescription for an opiate to be taken internally, is the basis of Bulson's paper. The pain from a middle ear or mastoid inflammation should never be quieted with any form of opium, as by so doing the symptoms are masked. The cause of the pain, which in all cases is pent-up secretions and infection, must be treated. A *free incision of the drum membrane, done under* proper aseptic precautions, is comparatively harmless and at once opens an avenue for the escape of infectious material which for the want of an opening may be extended into the antrum or the brain cavity, because that direction may be the one of least resistance. With the establishment of free drainage th severe pain should cease. If pain persists there is somethin more serious than a simple middle-ear trouble to deal wit An acute suppuration of the middle ear, if it is progressin toward a cure, will subside gradually. If a profuse discharg stops suddenly, then the physician should look out for a mastoid, or intracranial complications, and especially if at th same time the temperature jumps upward. If mastoid symptoms develop, as evidenced by pain, tenderness, redness swelling of the mastoid, cold should be applied to the mastoi at once, but should not be persisted in if it does not produce decided relief of all symptoms within a few hours, and n tried at all if the mastoid symptoms have existed for 3 hours, in which case the patient should be operated on.

Finally, every middle-ear suppuration has elements danger in it, and it should be given careful attention; tha mastoid or intracranial complications and the indications fo an operation therefore are clearly marked; and that 75 pe cent. of the deaths as a direct result of extension of a suppuration from the middle ear can be prevented by early an proper operative procedures.

### Journal Oklahoma State Medical Association, Muskogee

*February*

44 Tuberculosis. H. M. Williams, Wellston.
45 Surgical Aspect of Tuberculous Uterus and Appendages. N. Ballard, Oklahoma City.
46 Tuberculin. C. Blickensderfer, Shawnee.
47 Surgical Treatment of Tuberculous Glands. W. T. Till Muskogee.
48 Medical Education of the Public on Tuberculosis. J. M Postelle, Oklahoma City.
49 How Bovine Tuberculosis is Transmitted to Man and it Prevention. L. A. Turley, Norman.
50 Tuberculosis of the Tonsil. J. H. Barnes, Enid.
51 How Can we Care for the Tuberculous Children of Oklahoma L. E. Andrews, Oklahoma City.
52 Tuberculosis in the Public Schools from a Medical Standpoint W. G. Little, Okmulgee.
53 Tuberculous Meningitis. F. B. Erwin, Wellston.
54 Government Supervision of Tuberculosis. G. S. Barger, Wayne

### Therapeutic Gazette, Philadelphia

*February*

55 Surgical Affections of Meckel's Diverticulum; Case of Inguinal Hernia. J. B. Carnett, Philadelphia.
56 *Serum Sickness and Sudden Death Following Hypodermic Administration of Antitoxin. E. C. L. Miller and W. W. *Root, Detroit.*
57 Skin Varnishes. H. G. Klotz, New York.
58 Simple Methods of Applying the Metric System. M. S. Woodbury, Clifton Springs, N. Y.

56. **Serum Sickness and Sudden Death.**—While it is conceded by Miller and Root that it may be said that in cases of death following the administration of some antitoxin, death may have been caused by the serum, it has been shown that the use of small amounts of serum containing the necessary antitoxic dose, viz., from 5 to 10 c.c. of high potency serum, even with small children, is absolutely harmless. The death may have been caused by the *condition* known as "status lymphaticus" or some allied conditions, or it may have been

from causes unknown. As the facts in hand are not sufficient to exclude definitely any one of these three possibilities, they should all be carefully considered before reaching a conclusion.

### Journal Kansas Medical Society, Kansas City

*February*

59 Hydrocele—Recent Work with It. The Radical Operation. H. Wilkinson, Kansas City.
60 One Hundred Consecutive Accouchements. L. C. Lardner, Chanute.

### Pennsylvania Medical Journal, Athens

*February*

61 Recovery of Vision in an Amblyopic Eye after Four and One-Half Years of Blindness: A Contribution to the Question of Amblyopia Ex Anopsia. C. M. Harris, Johnstown.
62 *Psychoses Associated with Ocular Affections. S. D. Risley, Philadelphia.
63 *Relation Between Diseases of the Mouth and Systemic Diseases. H. B. Allyn, Philadelphia.
64 *An Improved Apparatus for Test-Meal Removal, Gastric Lavage and Inflation. F. A. Faught, Philadelphia.
65 *Study of Hyperchlorhydria. G. M. Piersol, Philadelphia.
66 *Pylorospasm. J. J. Gilbride, Philadelphia.
67 *Influence of Hydrogen Peroxid on Hydrochlorid Acid Secretion. E. H. Goodman, Philadelphia.
68 Symptom Complex of Pernicious Anemia with Small Carcinomata of Pylorus. J. E. Talley, Philadelphia.
69 *Home Treatment of Epilepsy as Contrasted with Institutional Treatment. M. Woods, Philadelphia.
70 *Epilepsy in Its Relation to Menstrual Periods—Study of 23 Cases. A. Gordon, Philadelphia.
71 Obstetrics in General Practice. J. O. Arnold, Philadelphia.
72 Reforms Essential to Good Obstetric Practice. C. S. Barnes, Philadelphia.
3 *Refracting Opticians. J. Thorington, Philadelphia.

62. Abstracted in THE JOURNAL, Nov. 6, 1909, p. 1589.

63. **Diseases of Mouth and Systemic Diseases.**—Allyn elieves that diseases of the gums and teeth are of great interst: (1) because they show manifest local disease with bsorbent surfaces from which pathogenic bacteria may be arried to produce systemic disease, or local disease elsewhere; 2) because the diseases of the gums and teeth may be mere ocal expressions of systemic diseases. Carious teeth, gingiviis and stomatitis not only lead to malnutrition but produce a oul mouth, from which are absorbed poisons which cause a ariety of local and general disturbances. On the other hand, lentists especially have discovered that it is sometimes impossible to arrest erosion and to cure gingivitis until a toxic tate of the tissues is recognized and removed. The lesson to e learned is that the mouth must be carefully inspected both or the prevention of disease and for the diagnosis and cure of obscure metabolic disorders.

64. **Improved Apparatus for Test-Meal Removal.**—By the ddition to the apparatus devised by Daland of a valve somewhat similar to that employed in certain steam engines which, because of the function which it performs, Faught has termed a reversing valve, all tube connections can be made before the tube is passed and the operator is given complete control of the flow of air or fluid by the simple turning of a lever. The parts of the apparatus are given and the method of its application outlined. Among the advantages of the method may be mentioned the ease and dispatch with which it can be carried out; its freedom from disagreeable features; uniformity of results and accuracy of findings; freedom from danger because of the feeble and easily controlled suction and pressure employed.

65. **Hyperchlorhydria.**—From an analysis of 300 cases of gastric hyperacidity by Piersol, it was shown that in 156 the abnormality in the gastric secretion was the result of a primary functional disturbance of the stomach, namely, hyperchlorhydria, while in the remaining 144 cases the hyperacidity was symptomatic of gastric dilatation, gastroptosis, gastric ulcer, gall-stones, etc. A further investigation of the 156 cases of hyperchlorhydria *per se* demonstrated that this condition is most commonly encountered during the second and third decades of life, that it is more frequent in men than in women, and that it is most often encountered in those who live under mental strain. Careless habits of eating, and the use of coffee, alcohol and tobacco predispose to its occurrence. The symptomatology of hyperchlorhydria was found to be variable and the gastric symptoms usually regarded as characteristic did not occur with sufficient constancy to be of definite diagnostic significance. The digestive power of the stomach was found to be good in hyperchlorhydria. Anemia was not as a rule found to accompany hyperchlorhydria.

66. **Pylorospasm.**—Gilbride states that the condition, which is only a symptom, occurs most frequently in gastric and duodenal ulcer, gastrosuccorrhea, and in other conditions in which there is an associated increase in the hydrochloric acid secretion of the stomach. It occurs less frequently in gastric carcinoma, occasionally in disease of the biliary passages and pancreas, also in appendicitis, etc. Pain or cramp is the most prominent symptom and it varies in intensity, duration and recurrence in each individual case. At the time of the spasm there is usually an increased peristalsis of the stomach, and when ingesta are present in the stomach vomiting may occur.

67. **Influence of Hydrogen Peroxid on Hydrochloric Acid Secretion.**—In 14 patients suffering with an excess of hydrochloric acid in the gastric content the following observations were made by Goodman: An ordinary test-meal, consisting of a piece of dry toast and 300 c.c. tea was given, extracted at the end of the usual time, and examined. After twenty-four hours a test meal consisting of a piece of toast and 300 c.c. 0.5 per cent. hydrogen peroxid solution was given and subsequently examined. There was with the latter (*so-called* peroxid meal) a remarkable diminution of the free hydrochloric acid in comparison to the amount aroused by the ordinary Ewald meal. In some instances there was a total absence of free acid, but in no instance were unpleasant symptoms complained of. Therapeutic use was made of the above knowledge with fairly good results. Goodman believes that in hydrogen peroxid has been found a new, safe and comparatively satisfactory remedy in hyperchlorhydria.

69. **Home Treatment of Epilepsy.**—Woods believes that in the home or small homelike sanatorium with the patient engaged in some safe and congenial occupation he may be of service to the community. In the institution, on the other hand, his identity is often lost and he becomes a mere bit of driftwood in an economic sea. He may also be seriously disturbed by the alarming manifestations of the disease about him and from the disturbing presence of which he cannot escape.

70. This article was published in the *New York Medical Journal*, Oct. 16, 1909, and was abstracted in THE JOURNAL, Oct. 30, 1909, p. 1511.

73. Abstracted in THE JOURNAL, Nov. 6, 1909, p. 1590.

### Mississippi Medical Monthly, Vicksburg

*February*

74 The Mechanical Factor in Lobar Pneumonia. J. W. Primrose, Sarah.
75 Treatment of Pneumonia. S. E. Frierson, Lyon.
76 Uremia Associated with Motor Aphasia. C. J. Marshall, Lambert.
77 Urethroscrotal Fistula with Extravasation of Urine. G. F. Carroll, Biloxi.
78 Uncinariasis. T. K. Magee, Hamburg.

### California State Journal of Medicine, San Francisco

*February*

79 *Uses of *B. Coli* and Streptococcus Vaccine in Urinary Diseases. A. B. Grosse, San Francisco.
80 Carcinoma and the Cervical Lymphatic System. R. Russ, San Francisco.
81 Importance of Eye, Ear, Nose and Throat Examinations in the Railway Service. A. C. Seely, Roseburg, Ore.
82 Amebiasis. J. D. Long, U. S. P. H. and M.-H. S.
83 Cesarean Section: Report of Nine Cases. A. B. Spalding, San Francisco.
84 Gunshot Wound of the Heart with Recovery. C. J. Teass, Kennett.
85 Phases in the Handling of Tuberculous Patients. G. H. Evans, San Francisco.
86 Present Status of the Osmic Acid Treatment of Neuralgia. T. C. McCleave, Berkeley.
87 Occurrence and Significance of the Boas-Oppler Bacillus in the Stools in Carcinoma of the Stomach. H. W. Allen, San Francisco.
88 Comments on Tropical Medicine. C. Wellman, Oakland.
89 Dermatitis Factitia in a Patient with Pruritus Generalis. H. E. Alderson, San Francisco.

79. **Vaccine in Urinary Diseases.**—Grosse concludes that autogenous vaccines have a definite place as therapeutic agents in urinary diseases, but must be prepared by a proficient bacteriologist, and that a well-equipped laboratory in conjunction with treatment rooms is essential. Fresh vaccines are necessary, as vaccines deteriorate much more rapidly than is generally conceded. Individuals with enlarged pros-

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A true incontinence of bladder and rectum not due to a moribund state, apathetic or abnormal mental condition, and apparently consequent to a neuritis process, was present in two cases. The histologic examination of the cord was negative, with the exception of the axonal reaction in the anterior cornual cells, which is an effect of this neuritis and not a primary cord lesion. In one case, the incontinence came on 7 days before death; in the second case, 6 days elapsed before the end. In one case there was difficulty in starting the stream in micturition for three and a half months prior to death. Three presented incontinence of bladder and rectum for some time before death, yet the psychosis renders it unnecessary to exclude them from consideration. As to muscular spasm, or it might better be called motor irritation, in one case, twitching of muscles of the right lower limb began one month after the onset of the illness. This twitching was more than a fibrillary tremor, and looked like the jumping of entire muscles without producing the spontaneous movements of the limb spoken of by Remak and others. Very soon this muscular twitching gradually increased in extent and severity and in about 10 days from its onset had involved all 4 limbs and two abdominal recti. In another case, contractures of the lower limbs began to develop sufficient in severity to necessitate the use of splints. There was also tremor of the hands, and alcohol was the cause. In 3 cases Allen found a difference in the size of pupils. Alcohol was a factor in 2 of these cases.

120. **The Visual Field and Psychoses and Neuroses.**—According to de Schweinitz there is no form of visual field pathognomonic of neurasthenia, but, other things being equal, a typical fatigue field is an important member of the symptom complex of this disease. Perimetric examination, he says, has a certain value in the differential diagnosis of hysteria and neurasthenia, inasmuch as a typical fatigue field of any of the varieties already named is more likely to be found in pure neurasthenia than in hysteria, while a stable concentrically contracted and tubular field, with inversion of the color lines, is a strong indication of hysteria, but such a visual field is not diagnostic of this psychosis, as it may be produced by the other conditions already named. Fatigue phenomena of the visual field are not limited to the periphery, but may appear n its center, and are equally important from a diagnostic standpoint. Certain varieties of central exhaustion scotomas are with difficulty distinguished from other central scotomas, the result of mild or attenuated forms of retrobulbar neuritis; in both instances it is possible that the phenomena depend on an edema of the optic nerve axis near the foramen.

121. **Typhoid Under Influence of Menstruation.**—For a long time Stengel has recognized a modification of the course of typhoid by the menstrual periods, and has found that on this account diagnoses of various complications including perforation and relapse have been made when these conditions did not exist; and he has seen measures of treatment applied with equal vigor and futility because exceptional severity of infection was suspected and the real cause of the aggravation of symptoms was overlooked. He has found that in young women and especially in girls soon after the establishment of menstrual life, the onset of typhoid is often unusually severe when it coincides with a menstrual period. It is, perhaps most decided when the menses fail to appear owing to the onset of the fever; but in some instances very severe symptoms occur, though the flow is normally established or excessive. The onset of these cases is more abrupt than is usual in the disease, the temperature often reaching its maximum immediately and for several days the fever may maintain the grade of hyperpyrexia. Nervous symptoms are prominent. Coldness, shivering, extreme sensitiveness to cold and to hydrotherapeutic measures, pain in the lower part of the abdomen, and sometimes hysterical manifestations are among the conditions he has encountered. Attempts at controlling the fever by cold water often increase the difficulties and add enormously to the patient's suffering. In three cases referred to recurrence of temperature was observed at the time of the next period after the onset of the fever. In all of the patients in whom active menstruation occurred at the onset of typhoid, and in whom the temperature was excessive, Stengel found that attempts at controlling temperature by cold water or other means have been only partially successful. When sponging or bathing has been used, the temperature has been uninfluenced, and, indeed, the nervous shock has sometimes caused increase of fever. The employment of cold in these cases should be carefully considered and often modified or discontinued. The nervous shock and reaction may be distinctly harmful. In some cases sponging or bathing in water of much higher temperature than that ordinarily used may accomplish for these patients all that is obtained from colder bathing in other persons or in the same patients later when the effects of the menstrual period have passed off. If actual hyperpyrexia occurs, the fever itself may be dangerous, and in such cases, Stengel has found that the use of sedatives, followed by modified hydrotherapy, is usually satisfactory.

### Cleveland Medical Journal

*February*

124 Modern Aspects of Experimental Diabetes. J. J. R. MacLeod, Cleveland.
125 Tests for Insanity in the Probate Court. F. Higley, Cleveland.
126 Id. C. H. Clark, Cleveland.
127 *Clinical Value of Carbon-Dioxid Snow, with Demonstration of New Ice Compression Mould. W. I. LeFevre, Cleveland.
128 Treatment of Labor in Contracted Pelvis. E. O. Houck, Cleveland.
129 *Vaccine Therapy in Chronic Otitis Media. P. A. Jacobs, Cleveland.
130 Suspension of the Uterus Followed by Two Normal Deliveries: Findings at a Subsequent Abdominal Section. H. Robb, Cleveland.
131 Coagulation of Blood (continued). W. H. Howell, Baltimore

127. **Carbon-Dioxid Snow.**—The compression ice mould used by LeFevre consists of a triple-barreled screw syringe, the two inner tubes are of brass, perforated with fine holes and between the two is a layer of chamois skin. The other tube is of fiber; being a non-conductor it does not become very cold. The syringe is screwed directly to the valve of the tank and the plunger is set so as to hold as much snow as is desired. The rapid evaporation of the liquid carbon dioxid produces such an intense cold that the cylinder is soon filled with snow. This is then compressed into ice, taken out of the mould and applied directly to the part. In the compression the temperature is reduced and the ice becomes hard and dry so it can be fashioned into any shape with a penknife. A cone of the ice about one-half inch long will last about 15 minutes in the open air and for about 60 minutes if wrapped in chamois skin.

129. **Vaccine Therapy in Otitis Media.**—Jacobs resorted to vaccine therapy in six cases with the following results: cured, 2; improved, 4; unimproved, none; treatment discontinued, 1; still under treatment, 3. These patients had not improved under the usual treatment. The vaccines employed were prepared after the method used in Wright's laboratory.

### Louisville Monthly Journal of Medicine and Surgery

*February*

132 Cancer of the Intestine. J. G. Sherrill, Louisville.
133 Id. L. Frank, Louisville.
134 Delivery of the Placenta. H. A. Cottell, Louisville.
135 Difficulties in Diagnosis of Mild Hookworm Infection. C. C. Bass, New Orleans.

### American Journal of Urology, New York

*February*

136 Metal Drainage Tube for Continuous Bladder Irrigation after Perineal Section for Prostatectomy, Removal of Intravesical Growths or Stone. H. G. Hamer, Indianapolis.
137 Radical Operation for Tuberculosis of the Male Genital Organs. G. S. Whiteside, Portland, Ore.
138 Vesical Calculus Removed by Repeated Crushing. G. K. Swinburne, New York.
139 Retention of Urine. F. Weisz, Budapest.
140 Sexual Intercourse: A Physiologic Interpretation. L. Jacobi, New York.
141 *Rebellious Bacteriuria. J. T. Geraghty, Baltimore.

141. **Rebellious Bacteriuria.**—Bacteriuria when persistent, Geraghty claims, is always due to organisms of slight pathogenicity. Bacteriuria due to the *B. coli* produces an acid urine—when due to the *Staphylococcus albus* it may be alkaline and give rise to troublesome phosphaturia. It is secondary to some focus in the urinary tract or neighboring organs. It may persist indefinitely despite all treatment without producing any inflammatory reaction on the part of the vesical

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In 3 cases the pulse varied between 110 and 140 a minute with a temperature approximately normal. A number of the other patients had very rapid heart action, but it was either immediately before death or a high fever made it impossibl for one to conclude that vagus involvement was the etiologi factor. In Case 11 there was present a moderately hig fever of an irregular type—though tending to be up in th evening and down in the morning. In Cases 10, 12, 13 and 1 swollen axis cylinders were found in goodly number in the crossed pyramidal tracts of the spinal cord. In Case 14, there were found swollen axis cylinders not only in the crossed pyramidal tracts of the cord, but also in the motor pathway in the mid-olivary region of the medulla, and in the motor

5. **Thyroidectomy.**—Sturm prolongs the ends of Kocher's "collar incision" upward for a couple of inches toward the angle of the jaw thus permitting the all-important superior thyroid vessels to be secured at an early stage. For his material he favors ordinary linen thread well boiled and stored in an alcoholic solution of phenol. Local anesthesia is employed.

6. **Causes of Eruption in Typhoid.**—Greenhalgh maintains that the inhibition of the vasoconstrictor and other nerves in the reflex zone in typhoid is due to the reflex incidence on them of specific impulses originating in the small intestine, mesenteric glands and spleen. The rose spots do not appear until the depression of the vasoconstrictor fibers has become well established and the specific agglutinins in the blood have become demonstrable by the Gruber-Widal reaction. As the arterioles relax, the blood pressure in the terminal capillaries becomes increased, and the circulation retarded. It is also possible that the endothelial cells of the capillaries being weakened by the depression in function of their intrinsic nerves, the increase in blood pressure brings about some passive dilatation. The influx of a greater volume of blood to the skin in the reflex zone brings a correspondingly greater number of bacilli to the cutaneous capillaries, where the sluggish flow of blood, and the impaired resistance of the endothelial cells, permit them to loiter in the capillary network. There they are joined by others; the agglomeration being due partly to the inherent tendency of the bacilli to compose themselves into groups whenever possible, but chiefly in the clamping power of the blood as the agglutinins come to be liberated therein. The assembly of bacilli thus formed sets up inflammation which becomes visible as the circular slightly raised rose spot, fading on pressure. Bacteriolysins continue the work begun by the agglutinins, and, in a little time, the assembled bacilli are devitalized, dispersed and disintegrated; the point of inflammation subsides and the rose spot fades.

8. **Adrenalin in Acute Asthma.**—Matthews has used adrenalin solution in thirteen cases of acute asthma; the results have been immediate relief, lasting for longer or shorter periods. In none of these patients has he observed any undesirable after-effects. The treatment consists of spraying into the nose a solution of adrenalin chlorid varying in strength from 1 to 1,000 to 1 to 4,000, according to the severity of the case.

### Lancet, London

*February 19*

10 Control of Scarlet Fever. F. G. Crookshank.
11 *Surgical Treatment of Duodenal Ulcer. L. A. Bidwell.
12 *Results of Remineralization in Conditions of Faulty Metabolism such as Neurasthenia. H. Higgins.
13 Infantile Types of the Temporal Bone and their Surgical Importance. A. H. Cheatle.
14 *Lymphatics of the Testicle. J. K. Jamieson and J. F. Dobson.
15 Perforative Peritonitis Originating in Pouches of the Large Intestine. G. Taylor and C. E. Lakin.
16 Spinal Meningitis Resembling Tumor of Spinal Cord; Laminectomy; Recovery. R. Roper.
17 Two Consecutive Perforations of a Peptic Jejunal Ulcer Following Gastrojejunostomy for a Perforated Gastric Ulcer. A. E. Maylard.
18 Rupture of the Uterus Treated by Suture of the Rent Through the Vagina and Drainage. H. J. Paterson.
19 The Circulatory System (continued). H. Campbell.

11. **Surgical Treatment of Duodenal Ulcer.**—It is explained by Bidwell that in cases of perforated ulcer the result depends almost entirely on the interval which has elapsed between the perforation and the operation. Patients operated on within six hours of perforation practically always recover, those operated on within twelve hours recover in most cases, and beyond this time the prognosis is doubtful. In cases of hemorrhage, the prognosis is always grave, as the condition is desperate, and although operation holds out a good hope of success, the mortality will always be from 10 to 15 per cent.

In operations for cicatricial contraction, the results are most successful, the mortality is practically *nil*, except in debilitated patients. In no class of stomach operation are the results so good, as the patients regain perfect health. In cases of ulcer without urgent symptoms, the mortality is slight and is confined to accidents such as pulmonary embolism, etc.; the permanent results are most satisfactory. Of Bidwell's patients 85 per cent. are completely cured, and the remainder derived great benefit. In his earlier cases he had some trouble from vicious circle, but these were cured after an enteroanastomosis. He has also had two recurrences after simple gastroenterostomy; but he has not had any since he occluded the pylorus in addition to the gastroenterostomy.

12. **Remineralization in Faulty Metabolism.**—This paper is a continuation of Higgins' work on blood pressure, chlorin retention and dechlorination, hyperacidity and variations in the starch ration. He cites a number of cases in which his so-called remineralization treatment proved most effective. The study is most interesting, but too detailed for abstracting purposes.

14. **Lymphatics of the Testicle.**—Jamieson and Dobson found on dissection that the arrangement of the lymphatics of the testicle is such that the complete removal of the lymphatic area is exceedingly difficult and dangerous, if not impracticable. When the right testicle is diseased in some fortunate cases it may be feasible to secure all the primary glands if these happen to lie superficially on the vena cava to its outer side, and between it and the aorta. *For this, the* transperitoneal method appears to be preferable to the retroperitoneal exposure of Bland-Sutton. The operation appears to be feasible, and in a suitable case should be attempted, but it must not be regarded as a truly radical method, as in only a small proportion of cases will it be possible to secure all the primary glands. When the disease is on the left side the intimate relations of the glands to the inferior mesenteric vessels and the renal vessels, and the fact that many of them lie under the duodenum, appear to forbid even a partial operation.

### Medical Press and Circular, London

*February 16*

20 Principles of Clinical Medicine. R. Lepine.
21 *The Leech in Medical Treatment. E. Weil.
22 The Science of Life. W. R. MacDermott.
23 Importance of Early Diagnosis of Tabes and Cerebrospinal Syphilis. T. A. Williams.

21. **Leech in Medical Treatment.**—The results of the application of leeches in human [illegible] eil, determines fugitive, local acute [illegible], up to a certain point, with the constitutional hemophilia determined by the intravenous injection of extract of leeches in the rabbit. The bleeding after leech bites persists because the blood has been rendered locally uncoagulable. It thus differs clearly from bleeding by wet cupping, which is small in amount, and of brief duration and, therefore, has no observable effect on the coagulability. The application of leeches, determining as it does, steady, prolonged bleeding, is not associated with any constitutional disturbance. It consequently presents all the advantages of phlebotomy without its drawbacks and inconveniences. It need not be regarded askance because as a matter of fact the bites never become infected. Inasmuch as the amount of bleeding depends on the anticoagulating substance injected into the wounds, hemorrhage may occur just as readily in phlegmasic as in other patients. Like phlebotomy, the application of leeches will relieve congestion, cause dyspnea to subside, and lower the temperature. It may, therefore, take the place of phlebotomy, except in acute cases of uremia, acute edema of the lung, etc., in which the immediate withdrawal of a large quantity of blood is imperatively called for.

### Clinical Journal, London

*February 16*

24 *Puerperal Eclampsia. G. E. Herman.
25 Etiology and General Pathology of Diseases of the Nervous System. J. S. Bury.
26 Treatment of Diseases of the Eye with Thyroid Extract. P. Dunn.

24. **Puerperal Eclampsia.**—At present, in cases of eclampsia seen early, Herman's opinion is that no better results have been obtained than those following the administration of morphin. For a patient with eclampsia who between the fits is restless and excitable, morphin is the best treatment. The drug should be used liberally, half a grain to begin with, if

the patient is not quiet within half an hour he gives another half grain. He gives the morphin in large doses, from half a grain up to two grains, or even more—enough to keep the patient quiet. In the Rotunda Hospital, Dublin, from 1889 to 1892 when the patients were not treated by morphin, the mortality was 35.3 per cent. From 1892 to 1905 they were treated by morphin. Seventy-one cases occurred during those years and the death rate was 16.9 per cent.—less than half what it had been before the treatment by morphin was introduced. Treatment by morphin is less troublesome than treatment by bleeding or by saline infusion.

The methods which Herman thinks are likely to give the best results are morphin with infusion of saline fluid. Bleeding should only be done if the tension of the pulse is high. If saline infusion is done, it should be by the method of Barnard, the fluid being allowed to run slowly into the cellular tissue and not quickly enough to form a painful swelling.

### Journal of Obstetrics and Gynecology of British Empire, London

*January*

27 Primary Carcinoma of the Fallopian Tube. A. Doran.
28 Spread of Carcinoma by the Fallopian Tube. B. Glendining.
29 Primary Cancer of the Fallopian Tube. H. R. Spencer.
30 Primary Carcinoma of Fallopian Tube Associated with Acute Inflammation. W. Tate.
31 Carcinoma of Fallopian Tubes, Right Ovary and Appendix. W. Tate.
32 Malignant Papilloma of the Fallopian Tube. T. P. Legg.

### Archives des Maladies du Cœur, etc., Paris

*January, III, No. 1, pp. 1-64*

33 Esophageal Pulsation in Man. (Etude critique de la pulsation oesophagienne chez l'homme.) A. Clerc and C. Esmein.
34 Prevailing Theories in regard to Blood Production. (L'hématopoièse d'après les données actuelles.) J. Rieux.

### Bulletin de l'Académie de Médecine, Paris

*February 8, LXXIV, No. 5. pp. 113-136*

35 *Discussion of Antityphoid Vaccination. A. Chantemesse, Landouzy and others.
36 Complement-Fixation Reaction a Reliable Test in Diagnosis of Tuberculosis. Marmorek and Widal.

35. This discussion of antityphoid vaccination was mentioned in the Paris Letter in The Journal, March 5, page 804.

### Presse Médicale, Paris

*February 9, XVIII, No. 12, pp. 97-104*

37 Successful Vaccine Treatment of Colon Bacillus Infection of Urinary Passages. O. Wulff.
38 Present Accepted Division of Urinary Apparatus into Segments Incorrect. Proposed Segmentation Applicable to all Mammals. (Les segments du tube urinaire.) A. Policard.
39 Dosage of Epinephrin. (A quelles doses faut-il prescrire l'adrenaline?) A. Martinet.

*February 12, No. 13, pp. 105-120*

40 *Prophylaxis of Contagious Diseases: Disinfection. P. Desfosses and L. Lagane.
41 *Bacillus-Carriers and Prophylaxis of Typhoid Fever in the Army. (Les porteurs de germes et la prophylaxie.) G. H. Lemoine.
42 *Is it Safe to Drink Bottled Wine from the Inundated Wine Cellars? (Peut-on boire le vin des caves inondées?) H. Roger.
43 *The Seine Floods Have Had No Influence on the Frequency of Typhoid Fever in the Past. (Les crues de la Seine n'ont aucune influence sur la fréquence de la fièvre typhoide.) J. Bertillon.

40. **Prophylaxis of Transmissible Diseases.**—Desfosses reviews each of the contagious diseases in turn, the mode of contagion and resistance of the virus, and then classifies them according as contagion occurs by way of the dejecta, the nasal and bronchial secretions, the skin and its secretions, the blood, or pus and soil containing spores. In discussing the preferable methods for disinfection during and after the disease, he declares that the active collaboration of the physician in charge of each case is necessary, the prophylaxis of transmissible disease being at present essentially medical.

41. **Bacillus-Carriers and Prophylaxis of Typhoid in the Army.**—Lemoine has had the blood examined in every case of febrile gastrointestinal disturbances and jaundice in his service at Val-de-Grâce during the last three years, and he found the typhoid bacillus in 40 per cent. of the cases although there was nothing otherwise at the time or later to suggest typhoid. This experience has convinced him that unsuspected abortive or occult forms of typhoid infection are much more common than is generally realized. This source of infection can be discovered only by systematic examination of the blood in all febrile gastrointestinal disturbances. When the germs of typhoid or diphtheria are found in apparently healthy individuals examination will generally reveal some persisting sequels of the disease, responsible for the survival of virulent germs, and until these sequels are cured the patient should be regarded as comparatively dangerous. Lemoine is convinced that the majority of affections tending to production of gall-stones owe their inception to preceding typhoid infection. Unless healthy bacillus-carriers eliminate large numbers of typhoid bacilli he does not think that special measures need be taken against them.

42. **Can Germs, etc., Penetrate Into a Corked Wine Bottle.**—Roger replies to this question in the negative, relating experiments which demonstrated that germs are unable to enter a well-corked bottle. Even if the cork is defective the bactericidal action of wine promptly destroys entering germs, at least, he says, when they are not in larger numbers than in the Paris flood water.

43. **No Recrudescence of Typhoid After Paris Floods in the Past.**—Bertillon gives the statistics of the incidence of typhoid in the months following previous floods, showing that the proportion of cases was even less than usual. The recent flood occurred at a time when typhoid fever is fifteen times less prevalent than it was in the periods of the other floods Another favorable factor is that in the present flood only one main sewer burst; the others bursting were merely the separate drains into the single buildings, and it is scarcely probable that the connected building contained a case o typhoid at the time. However, special measures have been taken for sterilization of buildings known to have recently harbored typhoid patients.

### *Semaine Médicale, Paris*

*February 16, XXX, No. 7, pp. 73-84*

44 Advantages and Disadvantages of Surgical Treatment of Simple Fracture of the Long Bones. (Le traitement chirurgical des fractures diaphysaires fermées.) R. de Bovis.

### Lyon Médical, Lyons

*January 23, XLII, No. 4, pp. 141-196*

45 Two Cases of Acquired Hemolytic Jaundice. (Ictères hémolytiques acquis.) A. Monisset, J. Chalier and L. Nové-Josserand.

*January 30, No. 5, pp. 197-268*

46 Impotence, Tardy Infantilism and Epilepsy, all Developing after Trauma Affecting the Testicles at the Age of 18½ Years. L. Gallavardin and J. Rebattu.

### Archiv für klinische Chirurgie, Berlin

*XCI, No. 2, pp. 245-542. Last indexed March 5, p. 824*

47 *Surgical Treatment of Tuberculous Mesenteric and Bronchial Glands. H. Thiemann.
48 Rotation and Torsion of Spine in Reaction to Bending. (Rotation und Torsion der Wirbelsäule als Reaction auf Verbiegung.) H. Sellheim.
49 Bilateral Cleft Hand and Foot with Partial Defect in the Pectoralis Muscles. (Beiderseitige Spaltfuss und Spalthand.) O. Orth.
50 *Operative Treatment of Injuries of the Lungs. (Lungenverletzungen.) E. v. Möller.
51 Malignant Granuloma. E. Fabian.
52 Contusions and Distorsions of the Spine and Their Consequences. (Klinische Studie über die Contusionen und Distorsionen der Wirbelsäule und ihre Folgezustände an der Hand von 56 Fällen eigener Beobachtung.) G. Müller.
53 *Bile Bronchus Fistula. (Gallen-Bronchus-Fistel; Laparotomie; Heilung.) O. Klauber.
54 Stasis Cyanosis from Compression of the Trunk. (Staseblutungen bei Compression der Brust und des Unterleibes.) A. Kock and H. Rönne.
55 *Peptic Ulcer of the Jejunum after Gastroenterostomy. P. H. van Roojen.
56 *Bacteriologic Importance for Aseptic Surgery of the Glands in the Skin and their Secretions. (Bakteriologische Bedeutung der Hautdrüsen und deren Sekrete bei der aseptischen Chirurgie.) L. C. P. Ritchie.
57 Surgery of the Blood Vessels. (Zur Gefässchirurgie.) Krüger. Continued.
58 Changes in Position of Stomach and Intestine from Anomalies in Early Embryonal Development. (Variationen der Lage des Magens und Darmes in Abhängigkeit von Abweichungen in der Entwickelung in frühester Keimperiode.) W. N. Sawin.
59 The Pseudodiphtheria Bacillus in Suppuration in Man. A. D. Pawlowski.
60 Technic for Interileo-Abdominal Exarticulation. Axhausen
61 Free Fascia Flap to Close Gap in the Dura. (Zur Frage des plastischen Ersatzes der Dura mater.) M. Kirschner.

47. **Operative Treatment of Glandular Tuberculosis.**—Thiemann gives the particulars of 26 cases; in all but one the mesenteric glands were involved. In 9 cases the patients were adults but the syndrome was similar to that most com-

mon in children, while in 4 children the type was that of the adult form. The communication issues from Riedel's surgical service at Jena. In one case a bronchial gland was the one involved; he thinks that this is the first case on record of primary bronchial glandular tuberculosis with operative treatment. The lung was not involved and complete recovery followed. The patient was a young man and the cheesy and calcified bronchial gland was in the hilus of the lung; the fistula opened in the third intercostal space. Thiemann gives the details of 12 cases followed to date or with autopsy in 4 cases. The cures have been complete, the intervals since operation ranging from 1 to 13 years.

50. **Operative Treatment of Injuries of the Lung.**—Möller reports 90 cases of injury of the lung including 48 gunshot wounds, 19 stab wounds and 23 contusions. Operative treatment in 64 cases saved all but 32.8 per cent. of the patients. Surgical intervention is indicated in cases of severe primary hemorrhage or persisting repeated hemorrhage, severe pneumothorax and emphysema in the cellular tissue and secondary pneumothorax.

53. **Bile-Bronchus Fistula and Hydatid Disease.**—Klauber reports a case in which expectoration of bile suddenly occurred ascribed to a gall-stone fistula. It ceased after cystostomy, but recurrence of obstruction in the bile ducts, two years later, led to cystectomy. The operation was nearly completed when the discovery was made of an echinococcus process in the liver which it was found had been the source of the trouble all the time, the passage of its products being responsible for the obstruction of the ducts. The soft mass which had been assumed to be a gall-stone must have been cyst-membranes, incrusted. In a second case the diagnosis of chronic cholecystitis from gall-stones was not confirmed by the laparotomy and recurrence of symptoms was followed by obstruction of the drain with echinococcus cyst products. In still another case a man of 52 had been treated for years on the assumption of gall-stones until the echinococcus cyst broke through into the chest. All the patients were cured by the operation, but in the first two cases chance alone disclosed the true nature of the lesion, unsuspected even when the abdomen had been opened.

55. **Peptic Ulcer in the Jejunum After Gastroenterostomy.**—Roojen gives the details of 12 cases of this kind that have been observed in Holland, including 4 from Rotjan's service. He also reviews 89 cases that have been published earlier. The lesion seems to be rare among the well-to-do, only one case each being known in a merchant, a physician, a lumberman and a journalist in the 27 cases in which the occupation is mentioned. In the cases with only vague local and general disturbances differentiation was impossible. Another group includes the cases in which perforation peritonitis developed sooner or later after the gastroenterostomy, but the most common form is that in which a chronic adhesive peritonitis induces the production of a tumor which in turn causes infiltration in the abdominal wall, generally in the left rectus abdominalis between the umbilicus and costal arch. The symptoms are mainly severe pain, persistent or spasmodic, generally located in the epigastrium. The attacks of pain do not coincide with the ingestion of food. The pain radiates toward the back and the region becomes tender. Sometimes the pain is relieved by moist heat and an ulcer diet. In 6 of the 41 cases in this group a fistula developed and in 3 there was merely an abscess. Sometimes the pain was more severe at night. Vomiting was a frequent symptom; as also signs of stenosis, but vomiting of blood was rare. In all these cases the ulcer developed after anterior gastroenterostomy. In 9 cases the adhesions were with the colon instead of the abdominal wall: sudden vomiting and diarrhea and sometimes colic are the first signs of trouble, and the patient rapidly loses weight. All but 10 patients were saved in the 51 cases of anterior gastroenterostomy, but 12 died in the 22 with posterior operation. All but 2 were saved of the 7 patients with perforation, while in the 8 non-operative cases the patients all died as also in 3 of the 8 cases of perforation into the colon. In the 42 cases of adhesion to the abdominal wall one patient died in the 7 non-operative cases and 4 in the 34 operative; there was recurrence in 13 in this group. Roojen is convinced that the manipulation of the bowel during the gastroenterostomy is responsible for the ulceration later. Trauma and predisposition are undoubtedly the main factors, although hyperchlorhydria and lack of the normal moistening with bile and pancreatic juice evidently cooperate. The gastric juice has a destructive action when it reaches a raw surface, and consequently it is of the utmost importance in prophylaxis of peptic ulcer not to submit the bowel to any trauma. With extreme precautions in this line there has been no tendency to peptic ulcer in the last series of 40 gastroenterostomies. After the operation it must be borne in mind that the stomach is diseased, and antacid measures and careful dieting are imperative until the conditions are approximately normal once more.

56. **The Sweat Glands and Aseptic Surgery.**—Ritchie reports research which demonstrates, he thinks, that the outward current of sweat and sebum effectually prevents the penetration of bacteria into the pores and skin glands under normal conditions. Even in the hair follicles the bacteria do not penetrate so deep as to be beyond reach of ordinary mechanical sterilizing measures.

## Berliner klinische Wochenschrift

*January 31, XLVII, No. 5, pp 177-228*

62 The *Hufeland Centennial.* (Aquea aus der Materia medica von Hufeland.) L. Brieger. (Hufeland's Anschauungen über die Scrophulose, nebst Randglossen.) O. Heubner.
63 *Peptic Ulcer in the Esophagus and Duodenum. C. A. Ewald.
64 *Pleuritic Dulness and the Paravertebral Triangle of Dulness. (Pleuritische Dämpfung und paravertebrales Dreieck.) A. Goldscheider.
65 *Increased Longevity. (Makrobiotik.) D. v. Hansemann.
66 *Appendicitis on Left Side. (Ueber Perityphlitis auf der linken Seite.) F. Karewski.
67 *Proposed "Black List" for Mishaps from New Drugs and Measures. (Zum "Nil nocere" in der Neurologie.) H. Oppenheim.
68 *Influenza and the Heart. (Grippe und H[illegible]
69 Idiopathic Renal Hemorrhage and Renal [illegible] essentielle Nierenblutungen und renal[illegible] Senator.
70 General and Clinical Importance of General Asthenia. (Ueber den Habitus asthenicus und seine klinische Bedeutung.) H. Strauss.

63. **Peptic Ulcer in Esophagus and Duodenum.**—Ewald reports 2 cases of peptic ulcer in the esophagus; one was before the era of esophagoscopy and gastrostomy was done to relieve stenosis above the cardia and also stenosis at the pylorus. The other patient was a man of 32 with violent pain in the lower third of the esophagus directly after eating, the pain radiating to the shoulders and down to the epigastrium. The esophagoscope revealed the extensive defect with a prominent edge and smooth red ground, the esophagus being spasmodically contracted below. There was no swelling of the glands or cachexia, or history of trauma—a trauma generally leaves a linear trace. The complete cure under treatment as for a gastric ulcer confirmed the non-malignant character of the lesion. Differentiation is more difficult with a peptic ulcer in the duodenum, but lesions outside the intestine can be excluded as the cause of the special symptoms when blood is found in the stool, especially invisible blood on a meat-free diet. Visible hemorrhage is extremely rare. His experience with Einhorn's bucket test was disappointing; it seemed as if the bucket were retained in the stomach by spasmodic closure of the pylorus. He remarks that no one yet has diagnosed a peptic ulcer in the duodenum with the Roentgen rays. In his experience duodenal ulcer is far less frequent than Moynihan and Mayo have found. In only 1 of the 662 cases of gastric or duodenal ulcer in his service at the Augusta hospital, Berlin, was the operation performed on the presumption of a duodenal ulcer. He thinks that the hunger pain which some accept as a sign of duodenal ulcer is more likely to be the result of hyperchlorhydria and traction on the duodenum from the filled stomach or from its peristaltic movements; it is merely one link in the chain of symptoms to be considered. Ewald protests further against operative intervention until after failure of internal measures, resting the diseased part as completely as possible while giving food with the largest possible proportion of calories that can be ingested without irritation. For this he gives the usual ulcer diet supplementing it with pure olive oil or frozen butter balls which the patient swallows like a pill. He gives the reports of two cases in detail.

clusions, Salomon declares, and the other is not much more reliable; its superiority lies in the fact that it indicates more exactly the special anatomic lesion. He experimented on dogs, studying conditions by means of an opening into the bladder, the bladder mucosa being sutured to the skin in a funnel-shaped fistula, exposing the mouth of the ureter. Part of the connected kidney was then resected.

97. **Systematic Repeated Puncture in Hydrocephalus.**—Kausch commends anew systematic, repeated puncture of the ventricles in hydrocephalus in young infants and reports 2 cases. The benefit was striking in each, he states, and no infection followed. In the first case, in a five-months infant, he withdrew 3,035 c.c. in 13 punctures in the course of 44 days, the circumference of the head being reduced from 52.5 to 45.7 cm., the exophthalmos, choked disc and the incipient atrophy of the papilla subsiding. The infant then succumbed to an intercurrent enteritis. Autopsy revealed changes in the meninges, relics of an acute meningitis at the age of two months, and responsible for the hydrocephalus, there being no communication between the spinal and cerebral fluid. He thinks that systematic tapping is more effectual and much less serious for the child than the operations that have been proposed for hydrocephalus. The pressure in the fluid before and after the puncture should always be recorded, and the puncture should be repeated whenever there is a high positive pressure, if necessary every day, until the skull returns to normal size. With negative pressure, compression should be applied, but this should be avoided when the bones of the skull are closing up. Complete recovery followed in a case of meningitis in a young man after a gunshot wound; 295 c.c. of fluid were withdrawn in four punctures in the course of sixteen days.

### Monatsschrift für Kinderheilkunde, Berlin

*December, VIII, No. 9, pp. 513-584*

100 *Experimentally Induced Secretion of Milk. (Ueber experimentelle Auslösung von Milchabsonderung.) K. Basch.
101 Pyloric Stenosis in Infants. (Ueber spastische Pyloruskontraktur der Säuglinge und angeborene Pylorusstenose, bezw. Pylorusenge.) W. Wernstedt.
102 *Children's Diseases and Tuberculous Family Taint. (Ueber Kinderkrankheiten mit bes. Beziehung zur familiären Belastung durch Tuberkulose.) G. A. Dotti.

100. **Experimentally Induced Secretion of Milk.**—Basch reports experimental research which has shown that the specific functioning of the breasts is independent of the nervous system; lacteal glands transplanted into the back of the animal secreted colostrum when the animal cast its young. With extracts of placenta and gravid ovary he has been able to elicit a secretion of milk in animals and in a few clinical cases.

102. **Children's Diseases and Tuberculous Family Taint.**—Dotti found a tuberculous family taint in 73 per cent. of the cases of pulmonary tuberculosis among 8,739 children at the Florence hospital: 62 per cent. in the peritoneal form and 52 per cent. in the form of chronic bronchitis. The influence of the tuberculous taint was also evident in other affections: in 50 per cent. of the tonsillitis cases; over 60 per cent. in Pott's disease and osteomyelitis and in 38.7 per cent. in the cases with adenoids. His table, he says, confirms the fact that in the morbidity of children those affections are most frequently encountered which are connected with a family tuberculous taint. He regards contagion from the environment as responsible for this, much more than heredity.

### Münchener medizinische Wochenschrift

*February 8, LVII, No. 6, pp. 281-336*

103 *Tonsillectomy in Treatment of Rheumatism and other Infections. (Die tonsilläre Behandlung der sogenannten rheumatischen Erkrankungen.) P. Schichhold. (Beziehungen entzündlicher Mandelaffektionen zu Infektionskrankheiten.) H. Curschmann.
104 *Transverse Tracheotomy. O. Franck.
105 Advantages of Iodin Sterilization of the Skin. (Wert der Jodpinselung zur Desinfektion der Haut vor Operationen.) F. R. Brewitt. (Erfolge mit der ausschliesslichen Alkoholdesinfektion und der Jodtinkturdesinfektion.) Nast-Kolb.
106 Inheritance of Biochemical Structure and its Medicolegal Importance. E. v. Dungern.
107 Indifferent Results with Spengler's I. K. in Treatment of Pulmonary Tuberculosis. (Mitteilung über die Behandlung der Lungentuberkulose mit "I. K." Spengler.) M. Roth.
108 Tuberculin Treatment of Pulmonary Tuberculosis. (Zur spezifischen Therapie der Lungentuberkulose.) G. Richter.
109 Behavior of Animal Charcoal in respect to Lesions Caused by *Bacillus pyocyaneus*. (Verhalten der Tierkohle zum Bacillus pyocyaneus im Ohreiter und zu granulierenden Knochenwunden.) O. Muck.
110 Technic for Instillation into the Eyes. (Augeneinträufelungen: Winke für den Nichtspezialisten.) Wolffberg.
111 Indications for Extraperitoneal Cesarean Section. (Zur Indikationsstellung des extraperitonealen Kaiserschnittes.) C. Knoop.
112 Two Cases of Gunshot Wound of the Subclavian and Brachial Arteries. (Schussverletzungen der Art. subclavia und brachialis.) H. Luxembourg.
113 *Technic of Tamponing for Post-Partum Hemorrhage. E. Schwarzenbach.
114 Advantages of Potassium Permanganate in Treatment of Suppurating Processes. (Kalium hyperm. cryst. als gewebezerstörendes Mittel.) R. Blumm.

103. **Tonsillectomy in Treatment of Acute and Chronic Rheumatism.**—Gürich and Schichold have found suppuration in the tonsils almost a constant accompaniment of rheumatic affections. Gürich not only found the pus but by tonsillectomy succeeded in curing 98 out of 125 patients with articular rheumatism; the outcome is not known in 15 of the other cases. Schichold's experience has been equally decisive in a series of 70 cases; the pus was accumulated in actually measurable amounts in a number of individuals. An important point in these experiences is that in nearly every case the patients had never been aware of the tonsillitis and the discovery of pus was a surprise. The tonsils were apparently normal on casual inspection; not until the anterior pillars of the fauces were drawn aside was anything abnormal discovered, but then the pus exuded on the slightest pressure. The process in the tonsils these writers regard as responsible for the development of toxins that maintain the acute or chronic rheumatic pains. The only effectual treatment, they assert, is to remove the tonsil, leaving merely its flat base. The rapid and permanent subsidence of the pains confirms the etiologic connection of the follicular tonsillitis with the rheumatism. It is important at the same time to see that the teeth are put in good order. Schichold advises prompt tonsillectomy at the first attack of acute articular rheumatism. He has observed a number of instances in which an apparently mild attack was followed by the graver forms of heart disease. The germs responsible for many cases of articular rheumatism nest in the tonsil pus and pass thence into the blood. Cauterization or slitting the tonsil does not clear out all the foci, but its removal puts an end to trouble from this source. Other diseases besides rheumatism may be amenable to the same treatment. Curschmann has been teaching for twenty years the connection between follicular tonsillitis and nephritis, the latter resulting probably from the action of toxins generated in the tonsils. He preaches that tonsillectomy is the logical treatment.

104. **Transverse Tracheotomy.**—Franck gives an illustrated report of several cases of tracheotomy done with a transverse incision. It has a number of advantages over the longitudinal, he asserts; the wound gapes spontaneously after the transverse incision, immediate healing is more perfect and the scar blends into the folds of the skin in the neck.

113. **Treatment of Postpartum Hemorrhage.**—The tamponing is done through a wide cone-shaped speculum in one piece which prevents any contact of the gauze with the vulva or the walls of the vagina. The cervix is drawn down with special forceps, each blade being in the form of a hollow square.

### Virchows Archiv, Berlin

*February, CXCIX, No. 2, pp. 193-384*

115 Relation between Coronary Arteries and the Papillary Muscles in the Heart. (Beziehungen zwischen Koronararterien und Papillarmuskeln im Herzen.) R. Amenomiya. Commenced in No. 1.
116 Case of Arteritis Nodosa. H. Beitzke.
117 Changes in Rabbit Aorta under Influence of Mercury, Lead and Zinc Salts Injected into a Vein in the Ear. (Veränderungen der Aorta bei Kaninchen unter dem Einflusse der Einführung von Quecksilber-, Blei- und Zinksalzen in die Ohrvenen.) P. Philosophow.

### Wiener klinische Wochenschrift, Vienna

*February 10, XXIII, No. 6, pp. 191-232*

118 *Diagnosis and Treatment of Exophthalmic Goiter. (Morbus Basedowii.) F. Chvostek.
119 Influencing of Elastic Fibers by Tuberculosis. (Zur Frage der Beeinflussung des elastischen Gewebes durch Tuberkulose.) M. Oppenheim.

120 Modified Technic for Stovain Spinal Anesthesia. (Ein neues Verfahren bei Anästhesien durch Rachistovainisierung.) A. Poenaru.
121 Advantages of a Little Chloroform to Attenuate Pain with Normal Delivery. (Schmerzlinderung bei normalen Entbindungen.) J. Eisenberg.
122 *First-Aid in Electric Accidents. (Kasuistischer Beitrag zur [illegible]) [illegible]linek.
123 [illegible] as Early Sign of Tuberculosis of [illegible] .. Friedjung.

118. **Diagnosis and Treatment of Exophthalmic Goiter.**—Chvostek declares that nothing explains so well the Basedow syndrome as the assumption of functional disturbance in the thyroid. He has observed an abortive Basedow syndrome accompanying chlorosis and subsiding with the latter. In other cases tachycardia, tremor, a tendency to sweating and nervous irritability accompanying the chlorosis were probably merely the expression of the effects of the anemia in a neurotic subject. Similar syndromes are observed during the menopause, being the expression of changes in the circulation and nervous system—not true exophthalmic goiter. Cardiovascular neuroses may also be mistaken for the Basedow syndrome. The difference in the pulse, standing and reclining, is abnormally great; such cases, he says, should not be confounded with true exophthalmic goiter, not even if goiter develops or a tendency to protrusion of the eyeballs is manifest. The anamnesis, the variability of the cardiac phenomena and the irritability of the heart exclude exophthalmic goiter, as also the lack of changes in the heart itself. Lead poisoning may also simulate the Basedow syndrome, and certain cases of cholelithiasis present symptoms on the part of the heart deceptively simulating functional or organic he[illegible]t disease. He knows of instances in which exophthalmic [illegible] had been diagnosed under these conditions, but thyroid [illegible]tioning had nothing to do with them. In a recent [illegible] patient with apparently typical exophthalmic goite[illegible] no improvement under the usual measures. The [illegible] of large proportions of fat in the stools and an [illegible] appetite suggested some disturbance in the pancreas, [illegible] under pancreas organotherapy the entire syndrome rapidly changed for the better, the patients soon regaining full earning capacity. The improvement continued as long as the administration of pancreas extract was continued, but the symptoms returned when it was suspended; they were again banished by resumption of the pancreas extract. It is a question in this case whether the thyroid or the pancreas is primarily affected. Patience, rest, change of environment and especially a trip to the mountains have proved the main reliance in his experience with treatment of exophthalmic goiter, supplemented by gentle hydrotherapeutic measures. He has never derived any benefit from drugs in exophthalmic goiter; heart tonics generally aggravate the symptoms. Weeks, months or more may be required before satisfactory benefit is realized, but he has always accomplished it in time, and has never had to recommend operative intervention, although he admits that this is justified when internal measures fail or there is compression of the trachea or a long course of treatment is impossible or when the patient demands strumectomy on account of the disfigurement. In the cases in which the Basedow syndrome is only indirectly induced, an operation on the thyroid would do no good. He has never observed better results from Roentgen-ray treatment than have been attained with mere galvanization alone.

122. **First Aid in Electric Accidents.**—Jellinek reports several cases of electric accidents, calling attention especially to one case in which the victim was unable to release his hands from the live wire over his head as he stood on a cellar floor. Those who came to his assistance unwittingly did the right thing as, in order to release his hands, they lifted him up, thus breaking the connection with the ground.

### Zeitschrift für Urologie, Berlin

*February, IV, No. 2, pp. 81-160*

124 *Suprarenal Tumor with Punctate Pigmentation. (Zur Klinik der Nebennierengeschwülste.) C. Adrian.
125 Syndrome Induced by Sponge Perforating into Bladder. (Symptomatischer Nachweis eines in die Blase durchgebrochenen Gazetupfers.) K. Roerig.
126 Cystoscope with Adaptable Interposed Lenses. (Neue Kystoskope.) O. Ringleb.
127 Technic of Application of Actual Cautery during Irrigation Urethroscopy. K. Speit.

124. **Suprarenal Carcinoma.**—Adrian has found records of punctate pigmentation, as in the case of suprarenal cancer described, in a number of cases of primary tuberculous processes in the suprarenals, cancer, simple hyperplasia, and also with hypernephroma. The punctate pigmentation may accompany diffuse brownish discoloration and be associated with other symptoms of Addison's disease. It seems reasonable, therefore, to class this punctate pigmentation with diffuse bronzing. None of the symptoms of Addison's disease is observed with kidney tumors except those of the hypernephroma type, thus confirming their connection with the suprarenal cell tissue. Some of the recent literature on suprarenal tumors is reviewed.

### Zentralblatt für Chirurgie, Leipsic

*February 5, XXXVII, No. 6, pp. 193-233*

128 *Long Operations under Primary Ether Anesthesia. (Langdauernder Aetherrausch.) L. Moszkowicz.
129 *To Hasten Healing of Fistulas into the Bladder. (Behandlung der Blasenfistel.) B. Burmeister.

*February 12, No. 7, pp. 233-272*

130 *Intravenous General Anesthesia. (Zur Frage der intravenösen Narkose.) H. Küttner.

128. **Prolonged Primary Anesthesia.**—Moszkowicz states that he has succeeded in prolonging to an hour or more the stage of incomplete anesthesia in which sensibility is abolished but the patient is still able to respond to questions, give his name and look around, the condition resembling that of a tipsy man to such an extent that the general term for it in Germany is the "ether drunk," *Aetherrausch.* The anesthetist has to keep the patient in this befuddled condition while not allowing him to sink into the stage of actual deep anesthesia. Moszkowicz has performed major operations on the legs, abdomen, etc., with this anesthesia, the patients lying quiet, babbling unintelligibly and moving their heads, but otherwise not interfering with the progress of the operation.

129. **Treatment of Fistula into the Bladder.**—Burmeister glues up the wound in the bladder after an intravesical operation by applying soluble rubber to the spot to serve as a glue for a disc of rubber tissue. As soon as this disc has dried another is applied on top of it, continuing in this way until the cover is thick and firm enough to hold. A compressing bandage is then applied above and the patient is allowed to get up. This dressing generally holds for twenty-four hours without any oozing of urine, and the incision heals promptly under it.

130. **Thrombosis with Intravenous General Anesthesia.**—Küttner has applied the technic suggested by Burkhardt (mentioned in these columns February 26, page 750) in 23 cases. The results were good as he shows by a tabulated record of the details, but still he writes to warn against the method as thrombosis is liable to develop at the point of the injection. The obstruction to the further infusion requiring the transference of the needle to another point in 2 cases was assumed to be an insignificant matter, as such are sometimes observed with saline infusion. But in one signs of embolism suddenly developed in the course of the intravenous anesthesia but proved transient. As there seemed to be some obstruction preventing further infusion, the vein was exposed above, when it was found that a fresh thrombus had developed, entirely occluding the vein, and a small clot was found in the tip of the needle. Küttner deplores this necessity for giving up this method of general anesthesia as it proved to have so many advantages for both the patient and the operator; the patients drop asleep as if in natural slumber. The three patients mentioned presented signs of infiltration in the lungs for some time afterward, suggesting that postoperative pulmonary complications may be of an embolic nature even with other methods of anesthesia.

### Zentralblatt für Gynäkologie, Leipsic

*February 12, XXXIV, No. 7, pp. 225-272*

131 Manual Separation of the Placenta. (Manuelle Placentalösung.) H. Peters.
132 Plastic Restoration of the Abdominal Wall. (Zur "Bauchdeckenplastik" nach Weinhold.) M. Stolz.

133 Intraperitoneal Shortening of the Round Ligaments. (Fixatio ligamenti rotundi retrouterina.) W. Holleman.
134 Dilatation of the Cervix Uteri with Tents. (Zur Technik der Laminariadilatation.) O. Grasser.

### Zentralblatt für innere Medizin, Leipsic

*January 8, XXXI, No. 2, pp. 33-64*

135 Inactivation of Complement by Shaking. (Ueber Schüttelinaktivierung der Komponenten des hämolytischen Systems.) A. Stühmer.

*January 22, No. 4, pp. 89-112*

136 Lipolytic Ferment. H. Pribram.

*January 29, No. 5, pp. 113-152*

137 Metabolic Findings, especially in regard to Purin Bodies, in a Case of Probable Thrombosis of the Hepatic Vein. (Verhalten der Purinkörper bei einem Falle von wahrscheinlicher Leberventhrombose.) E. Axisa.

*February 5, No. 6, pp. 153-176*

138 *Gastric Achylia. F. Schilling.

*February 12, No. 7, pp. 177-200*

139 Unreliability of Borchardt's Test for Levulose in the Urine. (Nachweis der Lävulose im Harn nach L. Borchardt.) F. Rosenberger.

138. **Defective Teeth as a Factor in Gastric Achylia.**—Schilling noticed that the teeth were defective in every one of his last series of 30 patients with gastric achylia, especially when there was concomitant diarrhea. The achylia follows mucous or atrophic gastritis, and this in turn is the result of irritation from imperfectly masticated food. The flora in the carious teeth, the lack of *normal gastric acidity and of mastication* permit an abnormal flora and irritation throughout the digestive tract.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*February 3, XXXI, No. 15, pp. 153-160*

140 *Febrile Splenic Anemia in Children. (L'anemia splenica febbrile dell'infanzia.) G. de Gaetani Giunta.
141 *"Anguish Neuroses." (Note su alcuni casi di nevrosi d' angoscia.) G. Calcagni.

140. **Febrile Splenic Anemia in Infants.**—Giunta has observed a number of cases *of this disease; it affects mostl*y teething infants and may commence with gastrointestinal disturbances or the onset *may resemble that of septic inf*ection. Sometimes the striking pallor of the child is the first sign to attract attention. The disease does not seem to be contagious, although he has encountered it in brothers and sisters, generally with an interval of years. The urine does not show any modifications. The disease may last for twelve months or more and is generally fatal, although a few infants finally recover. No drugs proved effectual in his experience, but a change of climate in some cases brought relief.

141. **Anguish Neuroses.**—Calcagni has observed several cases of what is called an "anguish neurosis," which Freud explains as overirritability from overexcitement or abnormal excitement in the sexual sphere. Calcagni was also able to discover some sexual cause in each of his cases, some interference with the unloading of the psychic tension produced by somatic sexual excitement. This anguish neurosis is liable to be erroneously ascribed to hysteria or neurasthenia, but the latter is a fatigue while this neurosis is a distress. Some regard it as merely a syndrome induced by some injurious influence acting on the sympathetic system, but Freud's conception harmonizes strikingly with the facts in Calcagni's experience. The symptoms simulate angina pectoris in some cases, the patient waking at night with extreme depression, precordial pain, palpitations, tremor and dyspnea. These attacks continued to recur frequently in two of the cases reported until the girls' fiancés left town. In other cases nausea and dizziness were the main symptoms, the dizziness persisting for twenty-four hours at a time, the patients having the sensation that the floor was swaying and giving way under them. The attacks recurred so often that the vertigo became almost continuous, but all disturbances ceased at once when the practice of coitus interruptus was abandoned.

### Policlinico, Rome

*February 13, XVIII, No. 7, pp. 195-226*

142 Encouraging Autoserotherapy in Pleurisy with Effusion. (Sull'autosieroterapia nelle pleuriti essudative.) E. Sarcinelli.

### Riforma Medica, Naples

*January 3, XXVI, No. 1, pp. 1-28*

143 Splenomegaly, Cirrhosis of the Liver and Ascites. (Casi di splenomegalia di Banti.) E. Morandi.

*January 10, No. 2, pp. 29-56*

144 Lipolysis from Effusions. (Potere lipolitico dei liquidi di versamento.) C. Carginale.
145 Urethral Tuberculin Reaction in the Non-tuberculous. (L'uretro reazione nei soggetti non tubercolosi.) P. Tumminia.

*January 17, No. 3, pp. 57-84*

146 Pathogenesis of Pancreatic Cysts. (Patogenesi delle cisti del pancreas.) A. Pellegrini.
147 Glycogen in the Normal Mammalian Kidney. (Sulla presenza di glicogeno nel rene normale dei mammiferi.) F. Addarj.
148 Four Cases of Typhoid-Malarial Fever. (Associazione infettiva cosidetta tifo-malaria.) A. DeCortes and G. M. Marongiu.

*January 24, No. 4, pp. 85-112*

149 Physiopathology of the Spleen. (Fisiopatologia della Milza.) V. Patricelli.
150 Differentiation of Ruptured Right Tubal Pregnancy and Appendicitic Peritonitis. (E sempre possibile la diagnosi differenziale fra gravidanza tubarica destra rotta nel peritoneo e *peritonite appendicitica?*) A. Gasbarrini.
151 Pathologic Anatomy of Progressive Paralysis. (Contributo alla diagnosi anatomo-patologica della paralisi progressiva.) D. De Albertis.

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## Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

FREQUENCY ELECTRIC CURRENTS IN MEDICINE AND DEN- Their Nature and Actions and Simplified Uses in External ts. By S. H. Monell, M.D., Professor of Static Electricity, nal Correspondence Schools, 1898-1903. Cloth. Price, Pp. 465, with 32 illustrations. New York: William R. 851 Sixth Avenue, 1910.

FES OVARIENNES ENVISAGÉES AU POINT DE VUE DE LA TIQUE CHIRURGICALE. Etude critique, expérimentale et clinique. Par le Docteur Louis Sauvé, Prosecteur à la Faculté. Travail de la Clinique de M. le Professeur Quénu. Paper. Price, 3.50 francs. Pp. 96, with 4 illustrations. Paris: G. Steinheil, 2, rue Casimir-Delavigne, 1909.

SOY BEANS. By C. V. Piper, Agrostologist in Charge, and H. T. Nielsen, Scientific Assistant, Forage Crop Investigations, Bureau *of Plant Industry. Farmers'* Bulletin 372. U. S. Department of Agriculture. Paper. Pp. 26, with illustrations. Washington: [Superintendent of Documents] Government Printing Office, 1909.

PROCEEDINGS OF THE NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS. [Murray Galt Motter, Secretary, 1841 Summit Place, N. W., Washington, D. C.] Nineteenth Annual Convention, Atlantic City, N. J., June 7, 1909. Published by the Confederation Feb. 23, 1910. Paper. Pp. 96.

ALBUM OF THE SPAS AND MINERAL SPRINGS OWNED BY THE ROYAL PRUSSIAN BOARD OF DOMAINS. Described, by Order of the Minister of Agriculture, Domains and Forests, by Dr. Stern, Royal Inspector of Baths, Langenschwalbach. Translated by Dan. Heuser, London. Cloth. Pp. 166, with illustrations.

SOY BEAN VARIETIES. By Charles R. Ball, Agronomist, Grain Investigations. Bureau of Plant Industry Bulletin No. 98. U. S. Department of Agriculture. Issued May 27, 1907. Paper. Pp. 38, with illustrations. Washington [Superintendent of Documents]: Government Printing Office, 907.

MANUAL ON TUBERCULOSIS. Its Cause, Prevention and Treatment. By Joseph A. Murphy, M.D., U. S. Indian Service. Paper. Pp. 9, with on: [Superintendent of Documents], Gover 1910.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS. [Dr. W. W. Potter, Secretary, 238 Delaware Ave., Buffalo, N. Y.] Vol. XXI, for Year 1908. Cloth. Price, $5. Pp. 488, with illustrations. New York: 1909.

HÉMATOLYSE ET HÉMATOGENÈSE, BACTÉRIOLYSE ET BACTÉRIOGENÈSE. Dr. G. Fróin, Ancien Interne des Hôpitaux de Paris. Paper. Pp. 272. Price, 6 francs. Paris: G. Steinheil, 2, rue Casimir-Delavigne, 1910.

KLINISCHE IMMUNITÄTS DIAGNOSTIK. Ein Lehrbuch für Aerzte. Von D Price, 3.60 marks. Pp. 186, with 5 von Gustav Fischer, 1910.

CONTROL OF BODY AND MIND. By Frances Gulick Jewett. Book Five, Gulick Hygiene Series. Cloth. Price, 50 cents. Pp. 269, with illustrations. Boston: Ginn & Co., 1910.

THE BODY AT WORK. By Frances Gulick Jewett. Book Four, Gulick Hygiene Series. Cloth. Price, 50 cents. Pp. 247, with illustrations. Boston: Ginn & Co., 1910.

GOOD HEALTH. By Frances Gulick Jewett. Book One, Gulick Hygiene Series. Cloth. Price, 40 cents. Pp. 172, with illustrations. Boston: Ginn & Co., 1910.

EMERGENCIES. By Charlotte Vetter Gulick. Book Two, Gulick Hygiene Series. Cloth. Price, 40 cents. Pp. 173, with illustrations. Boston: Ginn & Co., 1910.

TOWN AND CITY. By Frances Gulick Jewett. Book Three, Gulick Hygiene Series. Cloth. Price, 50 cents. Pp. 271, with illustrations. Boston: Ginn & Co., 1910.